

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

ALASKA ELECTRICAL PENSION FUND,
et al.,

Plaintiffs,

v.

BANK OF AMERICA, N.A., et al.,

Defendants.

Lead Case No.: 14-cv-7126 (JMF)

**MEMORANDUM OF LAW IN SUPPORT OF PLAINTIFFS' MOTION FOR
CLASS CERTIFICATION AND APPOINTMENT OF CLASS COUNSEL**

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PRELIMINARY STATEMENT

This case concerns a brazen anticompetitive scheme by Defendants to corrupt a financial benchmark known as ISDAfix. Defendants are fourteen large banks and one inter-dealer swaps broker, ICAP.¹ Together, the Defendant Banks and ICAP controlled the process for setting U.S. dollar (“USD”) ISDAfix benchmark rates and spreads during the Class Period (January 1, 2006 – June 30, 2013). This class action is brought by eight named Plaintiffs who invested in instruments tied to or affected by USD ISDAfix and were harmed by Defendants’ misconduct.²

Even before fact discovery is complete, Plaintiffs have developed overwhelming evidence that Defendants conspired to corrupt and manipulate USD ISDAfix throughout the Class Period, allowing them to profit at the expense of their investor clients.³ The evidence of Defendants’ scheme, summarized below, is virtually all “common” or “generalized” evidence, meaning it focuses on *Defendants’* conduct rather than on the conduct of any particular investor. Because factual and legal issues relating to this “common evidence” will predominate in this case, and because a class action is superior to any other method for the efficient adjudication of this matter, Plaintiffs respectfully request that the Court certify the following three classes under Federal Rule of Civil Procedure 23(b)(3):⁴

The “*Antitrust Class*”:

All persons or entities who from January 1, 2006 to June 30, 2013 (the “Class Period”): (1) entered into or terminated USD interest rate swaps with a Defendant

¹ The “Defendant Banks” (or “Banks”) are Bank of America, Barclays, BNPP, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan, Morgan Stanley, Nomura, RBS, UBS, and Wells Fargo. Plaintiffs have settled with all Defendants except for BNPP, Morgan Stanley, Nomura, Wells Fargo, and ICAP.

² Named Plaintiffs are: Alaska Electrical Pension Fund (“Alaska Fund”); Genesee County Employees’ Retirement System (“Genesee County”); County of Montgomery, Pennsylvania (“Montgomery County”); County of Washington, Pennsylvania (“Washington County”); City of New Britain, Connecticut (“New Britain”); Pennsylvania Turnpike Commission (the “Commission”); Erste Abwicklungsanstalt (“EAA”); and Portigon AG (f/k/a WestLB AG).

³ The evidence cited herein is attached as exhibits to the accompanying Declaration of Daniel L. Brockett in Support of Plaintiffs’ Motion for Class Certification and Appointment of Class Counsel (“DLB Decl.”).

⁴ The proposed classes exclude wholly foreign transactions—that is, transactions involving foreign defendant entities and foreign plaintiff entities, with no connection to U.S. commerce.

(or any affiliate thereof); (2) entered into or amended a physically settled USD swaption with a Defendant (or any affiliate thereof); and/or (3) entered into, made or received payments on, settled, or terminated any ISDAfix Transaction with a Defendant (or any affiliate thereof).⁵

The “*Unjust Enrichment Class*”:

All persons or entities who during the Class Period: (1) entered into or terminated USD interest rate swaps with Defendants BNPP, Morgan Stanley, Nomura, or Wells Fargo (or any affiliate thereof); (2) entered into or amended a physically settled USD swaption with BNPP, Morgan Stanley, Nomura, or Wells Fargo (or any affiliate thereof); and/or (3) entered into, made or received payments on, settled, or terminated any ISDAfix Transaction with Defendants BNPP, Morgan Stanley, Nomura, or Wells Fargo (or any affiliate thereof).

The “*Contract Class*”:

All persons or entities who during the Class Period who made or received cash payments calculated at least in part based on ISDAfix rates, in an ISDAfix Transaction governed by an ISDA Master Agreement with BNPP or Nomura (or any affiliate thereof) which was governed by New York or English law.⁶

ISDAfix was established by the International Swaps and Derivatives Association (“ISDA”) in 1998 as a benchmark for the fixed rates on interest rate swaps worldwide. ISDA represented that ISDAfix was set by a rigorous mid-day or end-of-day polling of the individual mid-market rates of a carefully chosen “panel” of leading dealer banks. ISDA also represented that, to ensure the rigor of ISDAfix, the rates submitted by panel banks would be monitored, outlier submissions would be excluded, and panel banks failing to abide by their obligations would be replaced.

ISDAfix rates were set for a number of currencies worldwide, including the euro, Hong Kong dollar, Japanese yen, British pound, Swiss franc, and U.S. dollar. For all currencies other

⁵ “ISDAfix Transactions” are all contracts, derivatives, notes, debt instruments, or any other type of transaction whose payments or value (or both) are linked to USD ISDAfix rates. This includes, to the extent they are linked to USD ISDAfix rates, such products as swaps, swaptions, constant maturity swaps, inverse floaters and snowballs, steepeners and flatteners, digital and callable range accrual notes, swapnote futures, cash-settled swap futures, interest rate linked structured notes, and variance and volatility swaps.

⁶ To avoid bringing multiple motions for class certification, Plaintiffs include a request to certify the Unjust Enrichment and Contract Classes in case Nomura Global is added to the case pursuant to Plaintiffs’ amendment request, Dkt. No. 417. If Plaintiffs’ request to amend as to Nomura Global is denied, Plaintiffs will withdraw their request to certify portion of these Classes regarding Nomura.

than USD, ISDA relied on Reuters, an independent, third-party information company, to poll panel banks each day, to exclude outliers, and to compile the final ISDAfix rates. For USD alone, ISDA allowed ICAP, a financially-motivated interest rate swap broker, to serve as the middleman responsible for collecting submissions from the USD fixing panel (*i.e.*, the Defendant Banks) and setting USD ISDAfix. ICAP's greed led it to work with the Banks to replace the ISDA-established fixing process with a different and fundamentally corrupt process. Defendants did this in secret; even ISDA's staff and long-time chief executive officer were kept in the dark.⁷

Specifically, in the early 2000s, ICAP stopped polling each individual Bank for its individual ISDAfix quotes, as it was supposed to do (and as Reuters did for every other currency). Instead, ICAP began sending all of the Defendant Banks an identical "reference" page. That page contained "pre-populated" rates and spreads for each interest rate swap tenor—drawn from an 11:00 a.m. snapshot of ICAP's market prices for interest rates swaps (recorded on a monitor called the "19901 Screen") and Treasuries (recorded on a trading platform called "BrokerTec"). After being sent the pre-populated reference page, the Banks, in turn, would rubber-stamp it. Literally at the click of a button, each Bank *adopted* the pre-populated rates and spreads as their own submission.⁸

As discussed below, an analysis conducted by one of Plaintiffs' experts of data produced in this case shows a staggering level of uniformity across the panel Banks' submissions during the Class Period, confirming that this joint rubber-stamping occurred. Because the Banks rubber-stamped the pre-populated reference page, each Bank knew that what was on the 19901 Screen and BrokerTec at 11:00 a.m. would become that day's USD ISDAfix.

⁷ The one ISDA staff member who may have incidentally become aware of Defendants' secret appears to have done nothing with the knowledge before [REDACTED] was fired for [REDACTED] DLB Decl. Ex. 1 at 260:11-261:9.

⁸ DLB Decl. Ex. 2 at 47:1-5 ([REDACTED]).

Defendants' concerted adoption of this process made USD ISDAfix uniquely susceptible to manipulation. All they had to do to manipulate USD ISDAfix in a desired direction was to transact in USD interest rate swaps or U.S. Treasuries with ICAP right before ICAP took the snapshot of the 19901 Screen and BrokerTec at 11:00 a.m. Doing so would (i) move the 19901 Screen, (ii) be reflected in the pre-populated reference page, and (iii) be *adopted* as *the* ISDAfix rate when all the panel Banks rubber-stamped that page. With this corrupt process in place, Defendants set about manipulating with zeal. They were assisted in doing so by ICAP's brokers, who helped the Banks time orders to "move the screen" right at 11:00 a.m.

A mountain of common evidence, including trader chats, audio files, recorded phone calls, and trading data, shows that the Defendants Banks, assisted by ICAP, repeatedly used this corrupted process to manipulate USD ISDAfix throughout the Class Period. Certain ICAP brokers made as much as \$7 million a year in compensation while executing the scheme, and the Defendant Banks padded their profits by rigging the market. Even a small change in USD ISDAfix could make a Bank a winner rather than a loser in a swap or swaption transaction.

As ISDA observed, due to safeguards built into the official setting methodology, it would take a "[REDACTED]" effort by the panel Banks to "[REDACTED]" the ISDAfix benchmark.⁹ By the mid-2000s, Defendants repeatedly acknowledged in their contemporaneous documents that they were engaged in precisely such widespread coordination. In late-2005, for example, ICAP brokers labeled the ongoing manipulation by dealers [REDACTED]"¹⁰ This "[REDACTED]" terminology was soon *adopted* widely by the conspirators.¹¹ In April 2006, a

⁹ DLB Decl. Ex. 3; DLB Decl. Ex. 1 at 203:18-207:5.

¹⁰ DLB Decl. Ex. 4 ([REDACTED]).

¹¹ See, e.g., DLB Decl. Ex. 5; DLB Decl. Ex. 6; DLB Decl. Ex. 7; DLB Decl. Ex. 8 at 2; DLB Decl. Ex. 9; DLB Decl. Ex. 10; DLB Decl. Ex. 11; DLB Decl. Ex. 12; DLB Decl. Ex. 13; DLB Decl. Ex. 14 at 3; DLB Decl. Ex. 15 & DLB Decl. Ex. 16 at 297:24-298:18 (authenticating transcript); DLB Decl. Ex. 17.

Barclays trader noted that [REDACTED]”¹²

In July 2006, ICAP internally discussed the “[REDACTED]

[REDACTED]”¹³ By February 2007, ICAP referred to the “[REDACTED]

[REDACTED]”¹⁴ By October 2007, a Citi trader noted that “[REDACTED]

[REDACTED]”¹⁵ In one striking 2008 communication, a Barclays trader relayed to a BNPP trader a discussion that *three other Banks* were having about whether they should change their ways: “[REDACTED]

[REDACTED]”¹⁶

But, as the common evidence makes clear, Defendants did not become “[REDACTED]” with regard to ISDAfix. To the contrary, they engaged in extensive efforts to hide their illegal conduct from the public. In one recorded phone call, a BNP trader warned a Barclays trader that they had to “[REDACTED]” about after news broke in late 2008 about banks being investigated for “[REDACTED]” in the credit default swaps market.¹⁷ In another exchange, one ICAP broker ([REDACTED]) cautioned the head of the ICAP medium-term swaps desk ([REDACTED]) that they “[REDACTED]” that another unnamed ICAP broker did not “[REDACTED]

¹² DLB Decl. Ex. 18.

¹³ DLB Decl. Ex. 19.

¹⁴ DLB Decl. Ex. 20.

¹⁵ DLB Decl. Ex. 21 at 2-3 (emphasis added).

¹⁶ DLB Decl. Ex. 22. Confronted with such clear evidence of collusion, Defendants’ witnesses only strategy has been to plead ignorance. See DLB Decl. Ex. 23 at 106:23-107:10, 108:8-109:5 ([REDACTED]).

¹⁷ DLB Decl. Ex. 24.

██████████,” expressing concern that the unnamed broker’s use of ██████████ could operate as a “██████████”. ██████████ responded: “██████████.”¹⁸

Defendants even concealed the truth from ISDA. ISDA’s long-time CEO and staff were unaware until June 2010 that Defendants were setting USD ISDAfix differently from the official process. ISDA thereafter recommended that the USD process be aligned with that of all other ISDAfix currencies. But because ISDA is a trade association dominated by dealers, this recommendation was made to the very same Banks who were profiting from the corrupted process.

The Banks rebuffed ISDA’s recommendation, with ICAP weighing in to oppose it as well, and the scheme continued. In November 2011, two JP Morgan traders noted that they had seen another Bank post a fake bid with ICAP to move the screen before 11:00 a.m. (which they called “██████████”), and one observed that “██████████.”¹⁹ At his deposition, ██████████ invoked his Fifth Amendment right to avoid self-incrimination in response to questions about his desk’s USD ISDAfix practices, highlighting that Defendants’ misconduct may well have criminal implications.²⁰

It was not until there were dramatic revelations of benchmark manipulation resulting from governmental investigations by the U.S. Commodities Futures Trading Commission (“CFTC”) and other regulators into both the London Inter-Bank Offered Rate (“LIBOR”) and USD ISDAfix that Defendants began to abandon their scheme. Specifically, on December 18, 2012 it was announced that UBS agreed to pay a record \$1.5 billion in fines relating to LIBOR

¹⁸ DLB Decl. Ex. 25.

¹⁹ DLB Decl. Ex. 26 at 8-9.

²⁰ See DLB Decl. Ex. 27 at 37:14-45:4. Plaintiffs will request an adverse inference against Deutsche Bank based on Mr. Fletcher’s invocation. See *U.S. v. Dist. Council of N.Y. City*, 832 F. Supp. 644, 651-652 (S.D.N.Y. 1993). The non-settling Defendants are jointly and severally liable for all acts of Defendants’ conspiracy, including those undertaken by Deutsche Bank. *N.Y. ex rel. Spitzer v. Feldman*, 2003 WL 21576518, at *3 (S.D.N.Y. July 10, 2003) (“[A]ntitrust coconspirators are jointly and severally liable for all damages caused by the conspiracy”).

manipulation and that two individual UBS traders were for the first time criminally charged for their manipulative activities.²¹ It was also revealed for the first time that the LIBOR scandal spread far beyond a select number of banks and was “epic in scale” involving dozens of conspirators across both submitting banks and brokers like ICAP.²²

In addition to record-setting fines and criminal charges relating to LIBOR, it was discovered in early 2013 that the CFTC had subpoenaed ISDA in relation to ISDAfix itself.²³ Unsurprisingly, in the face of these disclosures and increasing regulatory scrutiny, Defendants’ cartel began to crack. Most Defendant Banks stopped rubber-stamping in late 2012, and began submitting their individual rates, as they were supposed to have been doing all along. In late 2014, ISDA stopped publishing ISDAfix altogether. Four Banks (Barclays, Citi, Goldman Sachs, and RBS) have agreed to pay \$570 million in fines to the CFTC for their efforts to manipulate ISDAfix, with the CFTC issuing detailed findings of their misconduct.²⁴ The CFTC’s investigation remains ongoing.²⁵

This action seeks to hold Defendants accountable for the injury their manipulation inflicted on investors. Plaintiffs have already settled on a classwide basis with ten Defendants (Bank of America, Barclays, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC,

²¹ See Katharina Bart, et al., “*UBS traders charged, bank fined \$1.5 billion in Libor scandal*,” Reuters (Dec. 18, 2012), available at <https://tinyurl.com/jr4cy44>.

²² See David Enrich and Jean Eaglesham, *UBS Admits Rigging Rates in ‘Epic’ Plot*, Wall Street Journal (Dec. 20, 2012), available at <https://tinyurl.com/ydhpqvuh>. ICAP was later found to have “knowingly disseminated false and misleading information concerning Yen borrowing rates to market participants in attempts to manipulate, at times successfully, the official fixing of the daily Yen LIBOR.” See Press Release, U.S. Commodities Futures Trading Comm’n, *CFTC Charges ICAP Europe Limited, a Subsidiary of ICAP plc, with Manipulation and Attempted Manipulation of Yen Libor*, (Sept. 25, 2013), available at <https://tinyurl.com/y7l6lofy>.

²³ See Douwe Miedema, *U.S. watchdog subpoenas swaps association over benchmark*, Reuters (Apr. 8, 2013) (“The CFTC, which oversees the \$640 trillion derivatives market, wants to know if ICAP’s staff were colluding with the banks, who stand to profit from inaccurate quotes, Bloomberg said, quoting people familiar with the matter.”), available at <https://tinyurl.com/y7alufby>.

²⁴ See DLB Decl. Ex. 28; DLB Decl. Ex. 29; DLB Decl. Ex. 30; DLB Decl. Ex. 31.

²⁵ One former ICAP broker who was terminated for refusing to disclose the substance of his meetings with federal authorities (including the DOJ and FBI) met with the CFTC for perhaps the tenth time as recently as late May. DLB Decl. Ex. 32 at 18:15-20:12, 23:8-10.

JPMorgan, RBS, and UBS) for a total of \$408.5 million. Plaintiffs have gone well beyond the already damning findings of the CFTC to unearth evidence showing how the Defendant Banks and ICAP systematically conspired to corrupt the USD ISDAfix process. Class certification against the remaining Defendants is appropriate to ensure that injured investors can use that evidence to pursue damages caused by Defendants' scheme.

Plaintiffs' antitrust claim is tailor-made for class treatment. Certifying Plaintiffs' antitrust claim will promote the core purposes of the class action device—efficiency, deterrence, and compensation. *See Newberg on Class Actions* §§ 1:7–10 (5th ed. 2017). To prove its case, each Class member would seek to satisfy the same legal elements by relying on the same body of common evidence. The key disputed issues—Defendants' concerted use of a corrupted process, the impact of their misconduct, and the resulting damages suffered by Class members—are all susceptible to common proof, and the classwide questions clearly predominate over any individual issues that may arise.

Plaintiffs satisfy all elements of Rule 23(a): the proposed class of investors is large; many questions of law and fact are common to the Class; the named Plaintiffs are typical class members and adequate class representatives; and Plaintiffs and their counsel will continue to pursue and protect the interests of Class members, as they have done to date.

Plaintiffs also satisfy the predominance and superiority tests of Rule 23(b)(3). Proof that Defendants violated the Sherman Act will focus overwhelmingly (if not exclusively) on *Defendants' conduct*. Plaintiffs' presentation of common evidence concerning Defendants' illegal scheme will dominate at trial. Much of this evidence is highlighted below. Plaintiffs also offer the report of Dr. Michael A. Williams, a widely-published expert in antitrust economics, industrial organization, and regulation, who has been previously retained by, among others, the

U.S. Department of Justice, Antitrust Division and the U.S. Federal Trade Commission.²⁶ Dr. Williams' analyses of the Banks' submission data demonstrate that, on almost *every day* for six years, almost all Defendant Banks submitted the *exact same rate*, down to *three decimal points* (or one tenth of a basis point). These results provide compelling evidence that Defendants agreed to rubber-stamp the reference rate. Dr. Williams also explains from an economic perspective how the Defendant Banks used the rubber-stamping of the reference rates and spreads as a facilitating practice for their conspiracy in order to increase profits.

In addition, Plaintiffs offer the report of Robert Farrell, a former market participant, whose industry expertise enables him to explain the insider jargon used by the Defendant Banks' traders and ICAP's brokers.²⁷ Mr. Farrell painstakingly decodes the brokers' and traders' own words to show precisely how Defendants manipulated USD ISDAfix on dozens of specific occasions. The analyses of Dr. Williams and Mr. Farrell show concretely how the class can prove its claims at trial using common analyses that support the claims of all Class members at once.

To show how they plan to demonstrate impact and to estimate damages, Plaintiffs offer the report of Craig Pirrong, Ph.D., Professor of Finance and Director of the Global Energy Management Institute at the University of Houston Bauer College of Business.²⁸ Prof. Pirrong has developed a model for how prices in the interest rate swaps market would have behaved in the absence of (or "but for") Defendants' manipulation. Applying well-established economic methods to the current factual record, Prof. Pirrong estimates both the short-term and long-term

²⁶ See Expert Report of Michael A Williams, PhD (July 28, 2017) attached as Exhibit 1 to the Greenwald Declaration ("Williams Report").

²⁷ See Expert Report of Robert Farrell (July 28, 2017) attached as Exhibit 2 to the Greenwald Declaration ("Farrell Report").

²⁸ See Expert Report of Professor Craig Pirrong (July 28, 2017) attached as Exhibit 3 to the Greenwald Declaration ("Pirrong Report").

impact of each of Defendants' manipulative trades to develop an "artificiality ribbon" that models pricing for interest rate swaps in the but-for world. When compared against what actually happened, this model permits Prof. Pirrong to determine which trades were impacted and to quantify damages.

Prof. Pirrong's model provides a workable method by which Plaintiffs can show impact and calculate damages using a formulaic, classwide approach that can be applied to each affected trade by each Class member over the entire Class Period. Accordingly, common evidence will dominate in Plaintiffs' proof of liability, impact, and damages. Plaintiffs thus readily satisfy the predominance test of Rule 23(b)(3). *See Roach v. T.L. Cannon Corp.*, 778 F.3d 401, 405 (2d Cir. 2015) (predominance satisfied "if resolution of some of the legal or factual questions . . . can be achieved through generalized proof, and if these particular issues are more substantial than the issues subject only to individualized proof").

Class treatment is also the *superior* approach for adjudicating this case. The fact that Plaintiffs have already secured over \$400 million in classwide settlements, while not a single investor has filed an individual action, confirms this fact. Indeed, a classwide approach is likely the *only* realistic way for injured investors to vindicate their rights. Presenting this type of evidence would require a massive effort at a tremendous cost, which no individual Class member likely could bear on its own. Accordingly, the Antitrust Class should be certified.

Plaintiffs' unjust enrichment and breach of contract claims should also be certified.

Plaintiffs' unjust enrichment and breach of contract claims also involve common issues and can be proven by common evidence. The unjust enrichment claim is amenable to classwide proof because it, too, focuses on the Banks' conduct and seeks damages (disgorgement of unlawful or inequitable proceeds that the Banks received on swaps, ISDAfix Transactions, and physically

settled swaptions with Class members), which can be calculated on a classwide basis. Plaintiffs' contract claim arises out of transactions where a Class member received or made a payment on an ISDAfix Transaction entered into with BNPP or Nomura as counterparty, the cash flows of which were expressly tied to ISDAfix. The relevant transactions are all governed by standardized ISDA Master Agreements. *See In re U.S. Foodservice Inc. Pricing Litig.*, 729 F.3d 108, 118-19 (2d Cir. 2013) (affirming certification of nationwide breach of contract claims where claims arose from violations of "consistently defined" contract terms). The measure of contract damages—the value that transactions would have had if BNPP or Nomura had performed under its ISDA Master Agreements—is subject to classwide evidence through Prof. Pirrong's damages model. Accordingly, these Classes should also be certified.

OVERVIEW OF COMMON EVIDENCE

Although fact discovery is not yet complete, Plaintiffs have developed a wealth of common evidence—including documents, chats, recorded phone calls, deposition testimony, and expert analyses—showing that Defendants conspired to use a corrupted process for USD ISDAfix. This corrupted process allowed them to engage in rampant manipulation of the benchmark.

A. The Origin and Purpose of ISDAfix

ISDAfix was established in 1998 by ISDA in a contract with Reuters and ICAP.²⁹ ISDAfix was created to serve as a financial benchmark for mid-market rates and spreads of "plain-vanilla" interest rate swaps.³⁰ Specifically, an ISDAfix rate was supposed to represent the average fixed interest rate that swap dealers would quote for a swap of a certain maturity and notional value in exchange for a specified floating LIBOR rate. ISDAfix rates were set in a

²⁹ DLB Decl. Ex. 33 ([REDACTED]) ("1998 Agreement").

³⁰ DLB Decl. Ex. 28 at *3.

variety of currencies (including the euro, Hong Kong dollar, Japanese yen, British pound, Swiss franc, and U.S. dollar), and maturities (“tenors”), ranging from one to 30 years. ISDAfix spreads, published only in USD, were supposed to represent the difference between each ISDAfix rate and the yield of a U.S. Treasury note of equivalent maturity. ISDAfix was developed “to increase transparency and price certainty for dealers and end-users in the growing market for privately negotiated derivatives[.]”³¹

The official method for setting ISDAfix was as follows: At a specified time each day, an administrator would collect individual quotes from a panel of banks. The quotes were supposed to represent the fixed rates at which each bank would itself enter into interest rate swaps of various specific maturities and standard notional amounts. For USD, the administrator also collected quotes for swap spreads for each specified maturity, that is, the difference between that dealer’s swap rate quote and the current yield on a U.S. Treasury note of equivalent maturity. The administrator then discarded a number of the highest and lowest submitted rates for each swap maturity (a process called “topping and tailing”) to eliminate outliers and averaged the rest. That average was then published as the official ISDAfix rate for a given currency and tenor.

ISDA entered into written agreements with the banks it designated to join the contribution panels for the various ISDAfix currencies. These agreements spelled out the terms of participation and the official fixing process.³² The Defendant Banks were each members of the USD contribution panel during the Class Period. All except Wells Fargo and Nomura were

³¹ Press Release, ISDA, *ISDA to Introduce Screen Service for Swap Rates and Spreads with Reuters, InterCapital Brokers, and Leading Swaps Dealer*, (Mar. 25, 1998) (announcing establishment of ISDAfix), available at <https://tinyurl.com/y8m2nhrs>.

³² ISDA has not been able to locate these agreements for all banks on the USD panel during the class period, nor have certain Banks produced any such agreement. See DLB Decl. Ex. 34 at 99:8-100:19. ISDA has produced USD contribution agreements for [REDACTED]. DLB Decl. Ex. 35 at 3-36. The terms of each are substantively identical.

also members of ISDA's board and served on the ISDA committee that was supposed to oversee ISDAfix during the class period.³³

ICAP and Reuters were responsible for collecting the quotes (also known as "contributed rates" or "submissions") from ISDAfix panel banks for various currencies. Although ICAP was "[redacted]" assigned responsibility for collecting the "[redacted]" [redacted]³⁴ by late 2002 it was responsible only for collecting the *USD* rates and spreads.³⁵ Neither ICAP nor any other Defendant has been able to explain why ICAP stopped being responsible for European currencies and instead assumed responsibility for USD.³⁶ Reuters initially collected rates for "[redacted]"³⁷ but was collecting the rates for all currencies *other than USD* by late 2002.³⁸

B. Defendants' Motives to Manipulate ISDAfix

The Defendant Banks each held ISDAfix-linked risk³⁹ and stood to increase profits and minimize losses by influencing where ISDAfix (and especially USD ISDAfix) was set each day. The Banks' "options," "exotics," or "volatility" desks, for example, entered into swaptions and

³³ DLB Decl. Ex. 36 at 1-3 ([redacted]); DLB Decl. Ex. 37 at 1 ([redacted]).

³⁴ DLB Decl. Ex. 33 at 3.

³⁵ DLB Decl. Ex. 38 at 1 ([redacted]), 6 ([redacted]).

³⁶ Plaintiffs' Interrogatory No. 2 to ICAP reads: "[redacted]" ICAP has failed to provide an adequate response. *See* DLB Decl. Ex. 39 at 6-7 (citing in response DLB Decl. Ex. 40 ([redacted]) and DLB Decl. Ex. 41 ([redacted]), neither of which states when or why ICAP took over administration of USD ISDAfix); DLB Decl. Ex. 42 at 7 (amending response only by adding that [redacted]).

³⁷ DLB Decl. Ex. 33 at 3.

³⁸ DLB Decl. Ex. 38 at 1, 6.

³⁹ *See, e.g.*, DLB Decl. Ex. 43 at 111:19-112:3 ([redacted]); DLB Decl. Ex. 44 at 55:15-20 ([redacted]);

[redacted]; DLB Decl. Ex. 45 at 95:4-25, 97:7-98:5 ([redacted]).

other instruments with ISDAfix-linked risk.⁴⁰ Traders' individual profits and losses, on which their bonuses depended, were affected by the amount of money brought in or paid out on instruments linked to where ISDAfix was set. The sum of daily ISDAfix-linked risk could make movement in an ISDAfix rate of a single basis point worth as much as \$300,000 to a Bank on a single day, providing a strong common motivation for the Banks to conspire.⁴¹

Swaptions were a common ISDAfix-linked instrument. A swaption is an option to enter into an interest rate swap.⁴² The buyer of a swaption pays the seller a premium for the right, but not the obligation, to enter into an interest rate swap contract with the seller on terms specified in the swaption contract on a specified future date. That specified date is known as the exercise, or expiry, date. A swaption is "in the money" if the underlying swap contract is more favorable than the swap contract that the option-holder could obtain in the open market at the time of exercise. Upon exercise, swaptions can be "physically settled" or "cash settled": physical settlement results in the parties entering into an actual interest rate swap contract on the terms specified in the swaption, whereas cash settlement results in the seller of the swaption making a cash payment to the buyer—a payment which represents the net present value of the swap

⁴⁰ See DLB Decl. Ex. 28 at *6; DLB Decl. Ex. 29 at *5-6; DLB Decl. Ex. 30 at *5-7; DLB Decl. Ex. 31 at *4-5; DLB Decl. Ex. 46 at 59:15-60:9, 89:23-90:19 ([REDACTED]).

⁴¹ See DLB Decl. Ex. 21 at 2 ([REDACTED]); DLB Decl. Ex. 47 at 249:6-250:18 ([REDACTED]); DLB Decl. Ex. 48 ([REDACTED]); DLB Decl. Ex. 49 at 198:9-25 ([REDACTED]); DLB Decl. Ex. 50 at 1-2 ([REDACTED]); DLB Decl. Ex. 51 at 106:20-108:21; DLB Decl. Ex. 52; DLB Decl. Ex. 47 at 169:24-170:8 ([REDACTED]).

⁴² See Farrell Report ¶¶31-35.

specified in the contract. Common evidence confirms the importance of ISDAfix to swaptions traders at the Banks.⁴³

The net present value of a swap is determined by comparing the terms of that swap to the terms of swaps of the same tenor available on the open marketplace at the time of the comparison. ISDAfix was used, in part, to determine cash-settlement values for cash-settled swaptions. As ISDAfix stood as the proxy for prevailing fixed rates in the market at 11:00 a.m., cash-settled swaptions value would be measured by the difference between ISDAfix and the strike on the swaption.⁴⁴ Depending on where ISDAfix sets on the day that an in-the-money cash-settled swaption is exercised, the seller of the swaption is required to pay the buyer a greater or lesser cash payment. Various exotic interest rate derivatives were also tied to ISDAfix, depending on the type of derivative trade.

The Defendant Banks' options and exotics traders' own words reveal their incentive to affect where ISDAfix was set in order to impact their ISDAfix-linked risk. For example, a Nomura exotics trader told a Nomura swaps trader, "[REDACTED]

[REDACTED]"⁴⁵ Similarly, a Barclays trader told his ICAP broker "[REDACTED]

[REDACTED]"⁴⁶ One Wells Fargo trader, reflecting on strange market activity, noted that dealers "[REDACTED]

⁴³ See DLB Decl. Ex. 23 at 28:13-30:12 ([REDACTED]).

⁴⁴ George Handjinicolaou, *ISDA's Response to the European Commission's Public Consultation on the Regulation of Indices*, at 1-2, 3 (Nov. 29, 2012) ("ISDA developed ISDAFIX to facilitate the determination of exercise values for cash-settled swap options. The existence of such a benchmark provides a transparent, readily available value to which parties to a transaction can refer as a settlement rate. Without such a benchmark, it might be necessary to go through the process of calling a number of active dealers for quotes in order to settle transactions."), available at <http://tinyurl.com/y9d8s8ch>.

⁴⁵ DLB Decl. Ex. 53 at 1.

⁴⁶ DLB Decl. Ex. 54 & DLB Decl. Ex. 32 at 160:5-165:6 (authenticating transcript).

[REDACTED]

[REDACTED]⁴⁷

As for ICAP, the more trades it brokered, the more revenues, fees, and profits it collected and “[REDACTED]”⁴⁸ Because USD ISDAfix was based on ICAP’s 19901 Screen, ICAP reaped enormous fees brokering trades made to influence ISDAfix.⁴⁹ [REDACTED], estimated that during the Class Period ICAP brokered an “[REDACTED]” of interdealer interest rate swap transactions around 11:00 a.m.⁵⁰ The team of ICAP USD interest rate swap brokers who facilitated the Banks’ manipulation “[REDACTED]”⁵¹ and made a total of between “[REDACTED]” and “[REDACTED]” for ICAP in 2008 and 2009.⁵² This compensation was a result of ICAP’s control of the 19901 Screen, that Screen’s connection to ISDAfix, and the willingness of ICAP’s brokers to facilitate daily manipulation.⁵³

⁴⁷ DLB Decl. Ex. 55; *see also* DLB Decl. Ex. 56 ([REDACTED]) & DLB Decl. Ex. 32 at 183:2-188:12 (authenticating transcript); DLB Decl. Ex. 57 ([REDACTED]).

⁴⁸ DLB Decl. Ex. 58 at 37:12-38:18; DLB Decl. Ex. 32 at 26:6-24 ([REDACTED]); *see also* DLB Decl. Ex. 59 at 214:6-9; DLB Decl. Ex. 60 at 100:8-12; DLB Decl. Ex. 16 at 119:22-120:10, 167:6-169:20; DLB Decl. Ex. 61 at 102:11-14.

⁴⁹ *See* DLB Decl. Ex. 32 at 29:21-30:4 ([REDACTED]).

[REDACTED]; DLB Decl. Ex. 62 at 4 ([REDACTED]).

⁵⁰ DLB Decl. Ex. 59 at 124:19-125:7; DLB Decl. Ex. 16 at 170:8-25; *see also* DLB Decl. Ex. 38 at 1 ([REDACTED]).

⁵¹ DLB Decl. Ex. 63 at 3.

⁵² *Id.*

⁵³ DLB Decl. Ex. 58 at 121:10-123:14 ([REDACTED]).

[REDACTED]; DLB Decl. Ex. 64 at 1 ([REDACTED]).

[REDACTED]; DLB Decl. Ex. 63 at 3 ([REDACTED]).

C. ISDAfix Had Safeguards That Were Supposed to Prevent Manipulation

For the currencies administered by Reuters, the safeguards ISDA established to protect ISDAfix from being manipulated were effective.⁵⁴ But for USD ISDAfix, the Defendant Banks and ICAP used a corrupt process that rendered those safeguards ineffective.

The first safeguard was built into the definition of contributed rates, which provided that each panel member was to submit its own *independent, internal* mid-market rates. The 1998 Agreement defined the rates contributed by a panel bank as “[REDACTED]”⁵⁵ This definition required each Bank to contribute its own “[REDACTED]” “[REDACTED]”⁵⁶ Each panel Bank, in its contribution agreement with ISDA, agreed to abide by a similar rate definition:

[REDACTED]⁵⁷

Under this rate definition, no panel Bank could know what rates any other panel members would submit. The individual submission of a bank’s own rates would make it risky if not

⁵⁴ See DLB Decl. Ex. 1 at 405:19-407:11 ([REDACTED]).

⁵⁵ DLB Decl. Ex. 33 at 3.

⁵⁶ DLB Decl. Ex. 34 at 74:3-24 (emphases added); see also DLB Decl. Ex. 1 at 95:1-96:20 ([REDACTED]); DLB Decl. Ex. 43 at 72:21-73:10 ([REDACTED]).

[REDACTED]; DLB Decl. Ex. 60 at 242:12-23 ([REDACTED]).

⁵⁷ DLB Decl. Ex. 35 at 34 ([REDACTED]) (emphasis added). ISDA’s publicly available “Rate Definition” at the time contained an additional clause: “but should be a function of its own bid/offer spread.” <http://web.archive.org/web/20050211003538/http://www.isda.org/fix/isdafix.html> (Feb. 11, 2005 web archive snapshot); see also DLB Decl. Ex. 1 at 162:13-166:18 ([REDACTED]).

impossible for panel banks to submit identical rates in order to manipulate ISDAfix, since it would require them to communicate directly about the rates to submit.

A second safeguard was built into the calculation of the rates: after collecting the individual submissions from the panel members, the administrator was to disregard a specific number of the highest and lowest rates for each maturity (a process called “topping and tailing”) before averaging the rest to arrive at the final ISDAfix rate for the currency and maturity. Any panel member that unilaterally sought to influence ISDAfix by submitting rates higher or lower than its rates actually were would be thwarted by this discarding of outliers. ISDA staff acknowledged that this “ [REDACTED]

”⁵⁸

As a third safeguard, ICAP and Reuters each had a duty to “ [REDACTED]

”⁵⁹

This responsibility included a duty to [REDACTED]

”⁶⁰

ISDA expected that “ [REDACTED]

”⁶¹

Manipulative panel banks could be removed from the panel and even referred to the applicable regulatory authorities.

These safeguards should have been effective to prevent manipulation if Defendants had not acted in concert to circumvent them. Under the official ISDAfix-setting methodology, which

⁵⁸ DLB Decl. Ex. 3 at 1.

⁵⁹ DLB Decl. Ex. 33 at 3; DLB Decl. Ex. 1 at 39:3-23 ([REDACTED]

); DLB Decl. Ex. 60 at 251:18-253:24 ([REDACTED]

⁶⁰ DLB Decl. Ex. 34 at 163:10-16.

⁶¹ DLB Decl. Ex. 3 at 1-2.

included these safeguards, competitor panel banks participated in setting ISDAfix rates in multiple currencies for fifteen years without any allegations of impropriety—with the sole exception being USD.⁶² As discussed below, Defendants established a process to circumvent each of these safeguards with respect to USD ISDAfix.

D. Defendants Secretly Employed a Corrupt Fixing Process for USD ISDAfix

Unbeknownst to the market (and even ISDA),⁶³ Defendants circumvented the established protections against manipulation by jointly adopting a “[REDACTED]”⁶⁴ for USD ISDAfix. This different process, which was never approved by ISDA, facilitated the Banks’ widespread manipulation of USD ISDAfix.

Specifically, at some point before January 1, 2005,⁶⁵ ICAP and the Banks altered the USD fixing process so that every morning at 10:58, ICAP sent each of the Defendant Banks an

⁶² DLB Decl. Ex. 1 at 406:19-407:11 ([REDACTED]).

⁶³ See DLB Decl. Ex. 34 at 78:5-80:6 ([REDACTED]); DLB Decl. Ex. 1 at 113:22-115:16 ([REDACTED]), 297:8-299:17 ([REDACTED]). One ISDA staff member, [REDACTED], and [REDACTED] assistant, [REDACTED], learned about the connection between the 19901 Screen and the USD ISDAfix submissions in 2008. See DLB Decl. Ex. 65. There is no indication that [REDACTED] ever informed anyone else at ISDA or followed up in any way. DLB Decl. Ex. 34 at 80:7-81:15, 120:14-121:18. ISDA later fired [REDACTED] for “[REDACTED]” DLB Decl. Ex. 1 at 260:11-261:9.

⁶⁴ DLB Decl. Ex. 37 at 2. ISDA was kept in the dark about this change and never approved it in any way. See DLB Decl. Ex. 34 at 81:16-83:11 ([REDACTED]).

[REDACTED]; DLB Decl. Ex. 1 at 114:10-115:4 ([REDACTED]).

⁶⁵ DLB Decl. Ex. 66 ([REDACTED]).

email with a link to that Bank's submission webpage.⁶⁶ At 11:01:30 a.m., the fields on the submission pages were automatically "[REDACTED]" by ICAP with the so-called "reference rates and spreads" for all tenors.⁶⁷ As a technical matter, the reference *spread* for a given tenor was equal to a "snapshot" of the 11:00 a.m. mid-market swap spread for that tenor pulled from the 19901 Screen. The reference *rate* for a given tenor was equal to the sum of the reference spread for that tenor and the 11:00 a.m. mid-market U.S. Treasury yield for the corresponding tenor pulled from ICAP's BrokerTec Treasuries brokering service.⁶⁸

When a panel Bank logged into the USD ISDAfix submission web-page to see ICAP's "reference" rates and spreads, it would know instantly that the same reference rates and spreads had been sent to every other panel member. The Banks then ostensibly had until 11:15⁶⁹ to modify the prepopulated reference rates and spreads or submit them as is. In reality, the Banks nearly always rubber-stamped the reference rates and spreads, adopting the pre-populated figures at the click of a button. By this practice, in which all Defendant Banks engaged nearly every day for at least six years, the Banks guaranteed that the ICAP reference rates and spreads became the official USD ISDAfix rates and spreads nearly every single day.⁷⁰

As early as May 2006, ICAP internally noted that "[REDACTED]" describing this practice as a "[REDACTED]"⁷¹ Numerous Banks even had

⁶⁶ DLB Decl. Ex. 67 at 1 ([REDACTED]).

⁶⁷ See, e.g., DLB Decl. Ex. 68 at 1, 4 ([REDACTED]); see also DLB Decl. Ex. 69 ([REDACTED]); DLB Decl. Ex. 70 ([REDACTED]); DLB Decl. Ex. 28 at *4 ("To set USD ISDAFix rates . . . [ICAP] first generated reference rates and spreads from the snapshot of 11:00 a.m. screen prices . . ."); DLB Decl. Ex. 29 at *1, *4; DLB Decl. Ex. 30 at *4; DLB Decl. Ex. 31 at *3.

⁶⁸ DLB Decl. Ex. 28 at *4; DLB Decl. Ex. 30 at *4.

⁶⁹ See DLB Decl. Ex. 67.

⁷⁰ See Williams Report at ¶¶17-20; DLB Decl. Ex. 28 at *2, *4; DLB Decl. Ex. 29 at *1, *4; DLB Decl. Ex. 30 at *2, *4-5; DLB Decl. Ex. 31 at *2, 4; DLB Decl. Ex. 71 at 2 ([REDACTED]).

⁷¹ DLB Decl. Ex. 72 at 1.

ICAP rubber-stamp the reference rates and spreads for them on a daily basis, without even bothering to pretend to review the rates themselves. At least Bank of America,⁷² Barclays,⁷³ BNP,⁷⁴ Goldman,⁷⁵ JPMorgan,⁷⁶ Morgan Stanley,⁷⁷ and Wells Fargo⁷⁸ adopted this practice at some point. These arrangements persisted until late 2012, when regulatory scrutiny of benchmark manipulation caused ICAP to shy away from the practice.

Dr. Williams' analysis of the Defendant Banks' submission data shows that, on almost every day for *six years*, nearly all Defendant Banks submitted the exact same rate, down to three decimal points (or one tenth of a basis point). This is powerful proof of their concerted rubber-stamping. The uniformity began to dissolve only in late 2012 after the Banks became spooked about regulatory scrutiny:

⁷² DLB Decl. Ex. 73 at 1 ([REDACTED]).

⁷³ See e.g., DLB Decl. Ex. 74 ([REDACTED]); DLB Decl. Ex. 75 ([REDACTED]); DLB Decl. Ex. 32 at 196:14-197:18 ([REDACTED]), 237:18-238:13 ([REDACTED]).

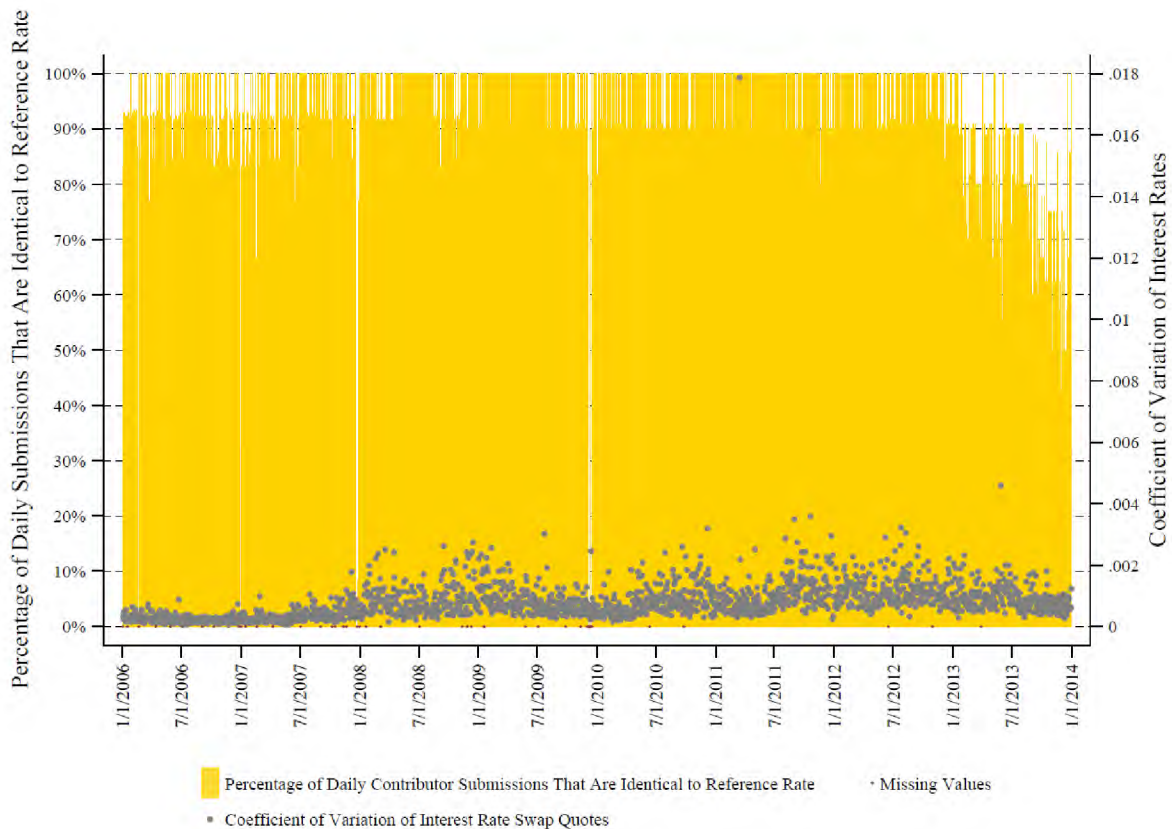
⁷⁴ See, e.g., DLB Decl. Ex. 76 ([REDACTED]); DLB Decl. Ex. 58 at 152:22-153:22 ([REDACTED]); DLB Decl. Ex. 77 ([REDACTED]).

⁷⁵ See, e.g., DLB Decl. Ex. 78 at 82:15-86:7 ([REDACTED]), 93:7-101:24, 108:16-111:17; DLB Decl. Ex. 79 ([REDACTED]); DLB Decl. Ex. 30 at *5.

⁷⁶ See, e.g., DLB Decl. Ex. 80 ([REDACTED]).

⁷⁷ See DLB Decl. Ex. 81 ([REDACTED]).

⁷⁸ See, e.g., DLB Decl. Ex. 82 at 2 ([REDACTED]); DLB Decl. Ex. 83 at 6-8 (explaining that ICAP had been submitting for Wells Fargo because Wells Fargo "asked a while ago").



The circulation of the “reference” rates and spreads served as a “focal point” or facilitating practice for the Banks, enabling them to make identical, manipulative USD ISDAfix submissions without the need to talk every day.⁷⁹ By adopting this practice, each Bank knew that every other Bank would rubber-stamp the reference rates and spreads, which would allow each Bank to manipulate USD ISDAfix simply by influencing the 19901 Screen. With this system in place, manipulation became as easy as playing a “[REDACTED]” or “[REDACTED]” with one

⁷⁹ See Williams Report at ¶¶42-70 (discussing concept of a “focal point”). A facilitating practice is one that “makes it easier for parties to coordinate price or other behaviour in an anticompetitive way.” Areeda and Hovenkamp, *Antitrust Law*, § 1407b (2d ed. 2003). See, e.g., *U.S. v. Container Corp. of Am.*, 393 U.S. 333, 334-37 (1969) (price-information exchange among dominant sellers of corrugated containers facilitated unlawful conspiracy).

“⁸⁰ of the game being that whatever ⁸¹ on the 19901 Screen at 11:00 a.m. would be the final USD ISDAfix rates for the day.

Common evidence establishes that each Defendant Bank knew that every other Bank was rubber-stamping the reference rates and spreads. ICAP itself openly acknowledged the practice in conversations with the Banks. On December 6, 2012, for example, ICAP told Wells Fargo that “⁸² Wells Fargo acknowledged that it “⁸³ The “⁸⁴” refer to ICAP’s automatically generated mid-market rates and spreads, that is, the reference rates and spreads. An ICAP CEO during the Class Period testified that he “⁸⁵” if the dealers did not regularly rubber-stamp the reference rates and spreads.⁸⁴ Even when ICAP circulated plainly erroneous rates and spreads on its reference page, the Banks “⁸⁵” them.⁸⁵

The Banks’ rubber-stamping eviscerated any protection from the requirement that they submit their own individual rates along with any protection afforded by topping and tailing. As for the duty to monitor the panel Banks’ contributed rates, ICAP did nothing of the sort. ICAP *never once* notified ISDA of any irregularity, abnormality, or other cause for concern with any of

⁸⁰ DLB Decl. Ex. 84 (

⁸¹ The traders and brokers called the price on 19901 at 11:00 a.m., “⁸²” See DLB Decl. Ex. 58 at 126:1-22 (

); DLB Decl. Ex. 16 at 73:13-75:21 (

); DLB Decl. Ex. 32 at 30:18-31:10 (

⁸² DLB Decl. Ex. 85.

⁸³ *Id.*

⁸⁴ DLB Decl. Ex. 59 at 128:11-18.

⁸⁵ DLB Decl. Ex. 86 at 2 (

); On several occasions (*e.g.*,), ICAP’s reference rates and spreads were incorrect and the panel nonetheless adopted them. See, *e.g.*, DLB Decl. Ex. 60 at 293:2-296:2; DLB Decl. Ex. 62; DLB Decl. Ex. 87; DLB Decl. Ex. 88; DLB Decl. Ex. 89; DLB Decl. Ex. 78 at 142:5-145:19.

the submissions made by any of the Banks,⁸⁶ even as ICAP was helping those Banks manipulate the rates. ICAP was happy to participate in the conspiracy because both the company as a whole and its brokers made massive profits. To show its gratitude to its fellow conspirators, ICAP threw lavish and even “wild” parties at ISDA’s annual meeting, wining and dining the traders whose contribution rates it was supposed to monitor.⁸⁷ The process by which USD ISDAfix was actually set every day was not publicly disclosed until mid-2012.⁸⁸

E. Defendants Engaged in Widespread Manipulation

ISDA’s CEO acknowledged at his deposition that, in retrospect, “because of the connection between 19901 and ISDAfix[,] there was [the] potential” for manipulation.⁸⁹ By the beginning of the Class Period, the Defendant Banks were timing trades in the moments before 11:00 a.m. in order to manipulate the ICAP reference rates. The Banks routinely executed swap and Treasury trades through ICAP right before 11:00 a.m. in order to influence the USD

⁸⁶ DLB Decl. Ex. 34 at 76:22-77:9, 163:10-16; DLB Decl. Ex. 1 at 45:9-17; DLB Decl. Ex. 42 at 10

([REDACTED]); DLB Decl. Ex. 60 at 251:18-254:13 ([REDACTED]).

⁸⁷ ICAP threw a large and occasionally “[REDACTED]” party every year for ISDA members including the Banks to “[REDACTED].” DLB Decl. Ex. 1 at 62:7-63:25; 68:16-69:16; DLB Decl. Ex. 90 ([REDACTED]); *see also* DLB Decl. Ex. 58 at 177:3-7 ([REDACTED]); DLB Decl. Ex. 91 ([REDACTED]); DLB Decl. Ex. 16 at 182:5-19, DLB Decl. Ex. 92 at 127:10-19; DLB Decl. Ex. 93 at 104:23-105:10 ([REDACTED]).

⁸⁸ Compare ISDA’s ISDAfix Web-page on June 2, 2012 (indicating no difference between the setting methodologies for the different currencies), *available at* <http://web.archive.org/web/20110601135437/http://www.isda.org/fix/isdafix.html>, *with* ISDA’s ISDAfix Web-page on June 30, 2012 (describing the way USD ISDAfix was set distinctly from any other currency), *available at* <http://web.archive.org/web/20120630173533/http://www2.isda.org/asset-classes/interest-rates-derivatives/isdafix>; *see also* DLB Decl. Ex. 34 at 112:15-115:23 ([REDACTED]).

⁸⁹ DLB Decl. Ex. 1 at 206:17-207:5.

ISDAfix rates (or “[REDACTED]”).⁹⁰ This manipulation of the 19901 Screen necessarily affected the broader market for interest rate swaps, since “[REDACTED]

[REDACTED]” and “[REDACTED]”⁹¹

In the “[REDACTED]”⁹² any swap or Treasury trade entered on ICAP’s Screen right before 11:00 a.m. could affect the reference rates and spreads and, thus, the final USD ISDAfix rates and spreads. ICAP brokers knew the traders “[REDACTED]”⁹³ and regularly checked whether the traders at the Banks were interested in the 11:00 a.m. fix on a given morning.⁹⁴ Traders instructed ICAP brokers which direction they wanted the ISDAfix rates moved.⁹⁵ ICAP brokers did their best to time the execution of trades in the final seconds

⁹⁰ DLB Decl. Ex. 94 ([REDACTED]); DLB Decl. Ex. 16 at 144:12-22 ([REDACTED]); DLB Decl. Ex. 78 at 231:11-233:4 ([REDACTED]); DLB Decl. Ex. 32 at 53:15-24, 61:22-62:5, 68:11-21, 92:20-25, 110:10-21, 122:11-18 ([REDACTED]); DLB Decl. Ex. 19 at 2 ([REDACTED]).

⁹¹ DLB Decl. Ex. 96 at 1 ([REDACTED]).

⁹² DLB Decl. Ex. 58 at 171:14-173:9 ([REDACTED]); *see also* DLB Decl. Ex. 97; DLB Decl. Ex. 17.

⁹³ DLB Decl. Ex. 16 at 75:17-22; DLB Decl. Ex. 95 at 153:8-13.

⁹⁴ DLB Decl. Ex. 98 ([REDACTED]); DLB Decl. Ex. 99 at 2-3 ([REDACTED]); DLB Decl. Ex. 100 at 1-2 ([REDACTED]); DLB Decl. Ex. 101 ([REDACTED]).

⁹⁵ DLB Decl. Ex. 102 ([REDACTED]); DLB Decl. Ex. 99 ([REDACTED]); DLB Decl. Ex. 16 at 76:10-77:16 ([REDACTED]); DLB Decl.

before 11:00 a.m.⁹⁶ Trading would “ [REDACTED]

[REDACTED]” because “ [REDACTED].”⁹⁷ [REDACTED]

[REDACTED], testified he would “ [REDACTED]

[REDACTED]

[REDACTED].”⁹⁸ Traders would not “ [REDACTED]” after the snapshot

because the activity had only been “ [REDACTED].”⁹⁹

Plaintiffs have identified dozens of concrete examples of manipulation. These examples consist of discussions among traders at various Banks and ICAP brokers—over the phone, via email, or via chat. Because these traders often use insider jargon, Plaintiffs’ industry expert, Mr. Farrell, has helped to decipher them. Mr. Farrell provides a detailed, line-by-line translation of the jargon used in several dozen illustrative instances of Defendants’ manipulation. He decodes the otherwise cryptic language, puts it in context based on his review of underlying trading records and his extensive background in trading financial instruments (particularly interest rate derivatives), and explains in plain English how the conversations indicate serious misconduct on a broad scale.

Ex. 103 (“the goal is to get it to print at 11 as high as possible”); *see also* DLB Decl. Ex. 104; DLB Decl. Ex. 105; DLB Decl. Ex. 106.

⁹⁶ *See* DLB Decl. Ex. 107 ([REDACTED]); DLB Decl. Ex. 95 at 171:3-182:8 ([REDACTED]); DLB Decl. Ex. 108 ([REDACTED]); DLB Decl. Ex. 109 ([REDACTED]); *see also* DLB Decl. Ex. 110 ([REDACTED]); DLB Decl. Ex. 111 ([REDACTED]).

⁹⁷ DLB Decl. Ex. 58 at 81:7-83:6, 107:12-20; *see also* DLB Decl. Ex. 16 at 147:8-149:11; DLB Decl. Ex. 95 at 32:10-20; DLB Decl. Ex. 97 ([REDACTED]).

⁹⁸ DLB Decl. Ex. 78 at 231:11-232:19.

⁹⁹ DLB Decl. Ex. 58 at 121:10-123:14 ([REDACTED]); *see also* DLB Decl. Ex. 112 ([REDACTED]).

As discussed above, Defendants' ability to manipulate USD ISDAfix depended on their joint commitment to the corrupted process. None could play "[REDACTED]" unless they all cooperated. ICAP brokers regularly informed their assigned client Banks when one or more other Defendant Banks were going to "[REDACTED]" at 11:00 a.m.¹⁰⁰ ICAP freely told one Defendant Bank which of the other Banks were most active in manipulating ISDAfix.¹⁰¹ ICAP brokers, however, also knew to keep the Banks' manipulation secret from non-conspirators.¹⁰²

The Banks' traders internally acknowledged their own manipulation and their awareness that others were manipulating ISDAfix. When discussing the "[REDACTED]" associated with a swaption settlement tied to ISDAfix in 2006, one Barclays trader openly warned a colleague in the investment banking division that "[REDACTED]"¹⁰³ In 2007, one BNPP employee went so far as to add "[REDACTED]" as an internal meeting agenda item to be discussed in order to "[REDACTED]"

¹⁰⁰ See, e.g., DLB Decl. Ex. 113 ([REDACTED]); DLB Decl. Ex. 32 at 145:9-18 (authenticating transcript); DLB Decl. Ex. 114 ([REDACTED]); DLB Decl. Ex. 58 at 249:6-13 ([REDACTED]); DLB Decl. Ex. 115 & DLB Decl. Ex. 32 at 37:17-38:4 (authenticating transcript); DLB Decl. Ex. 32 at 38:23-39:6 ([REDACTED]); DLB Decl. Ex. 116 ([REDACTED]); DLB Decl. Ex. 95 at 223:6-224:13 (authenticating transcript); DLB Decl. Ex. 95 at 225:15-228:18 ([REDACTED]); DLB Decl. Ex. 60 at 174:4-176:4 ([REDACTED]).

¹⁰¹ See DLB Decl. Ex. 117 ([REDACTED]); DLB Decl. Ex. 32 at 149:23-150:11 (authenticating transcript); DLB Decl. Ex. 118 ([REDACTED]).

¹⁰² See DLB Decl. Ex. 25.

¹⁰³ DLB Decl. Ex. 18.

-
- | Category | Value (approximate) |
|----------|---------------------|
| 105 | 100 |
| 107 | 90 |
| 109 | 80 |
| 110 | 70 |
| 111 | 60 |
| 112 | 50 |
| 113 | 40 |

¹¹² DLB Decl. Ex. 126.

- [REDACTED] 113
- [REDACTED] 115
- [REDACTED] 116
- [REDACTED] 118
- [REDACTED] 120
- [REDACTED] 121

¹¹³ DLB Decl. Ex. 127 & DLB Decl. Ex. 128 at 135:5-12 ([REDACTED]).

¹¹⁴ DLB Decl. Ex. 129.

¹¹⁵ DLB Decl. Ex. 130; DLB Decl. Ex. 58 at 171:6-181:5.

¹¹⁶ DLB Decl. Ex. 131.

¹¹⁷ DLB Decl. Ex. 132.

¹¹⁸ *Id.* at 3.

¹¹⁹ DLB Decl. Ex. 133.

¹²⁰ *Id.* at 5-6.

¹²¹ DLB Decl. Ex. 134; *see also, e.g.*, DLB Decl. Ex. 15 & DLB Decl. Ex. 16 at 298:5-16 (authenticating transcript); DLB Decl. Ex. 24 & DLB Decl. Ex. 23 at 131:11-132:11 (authenticating transcript); DLB Decl. Ex. 56 & DLB Decl. Ex. 32 at 184:2-185:23 (authenticating transcript); DLB Decl. Ex. 101 & DLB Decl. Ex. 16 at 391:5-392:9 (authenticating transcript); DLB Decl. Ex. 105 & DLB Decl. Ex. 23 at 202:4-24 (authenticating transcript); DLB Decl. Ex. 113 & DLB Decl. Ex. 32 at 145:9-18 (authenticating transcript); DLB Decl. Ex. 115 & DLB Decl.

As noted above, documents even show that at least four Banks discussed in mid-2008 whether the Banks should stop manipulating USD ISDAfix.¹²² But they did not do so until they feared being caught by regulators in late 2012. Defendants' conduct, if proven at trial, clearly violates Section 1 of the Sherman Act. *See Brown v. Pro Football, Inc.*, 518 U.S. 231, 241 (1996) (unlawful concerted action includes conduct that "suggests that each competitor failed to make an independent decision"); *U.S. v. Container Corp. of Am.*, 393 U.S. 333, 336-37 (1968) (holding *per se* unlawful competitors' exchange of price information as limiting competition).¹²³

F. Defendants Thwarted Potential Threats to The Conspiracy

1. Defendants kept their conduct secret and rebuffed inquiries

Defendants actively worked to keep their misconduct hidden. Defendants' conspiracy required secrecy among its members because if investors (and especially the Banks'

Ex. 32 at 37:17-39:6 (authenticating transcript); DLB Decl. Ex. 117 & DLB Decl. Ex. 32 at 149:23-150:7 (authenticating transcript); DLB Decl. Ex. 135; & DLB Decl. Ex. 16 at 319:5-12 (authenticating transcript); DLB Decl. Ex. 136 & DLB Decl. Ex. 23 at 138:25-139:25 (authenticating transcript); DLB Decl. Ex. 137 & DLB Decl. Ex. 23 at 176:18-177:5 (authenticating transcript); DLB Decl. Ex. 138 & DLB Decl. Ex. 23 at 184:22-185:6 (authenticating transcript); DLB Decl. Ex. 139 & DLB Decl. Ex. 23 at 240:17-241:15 (authenticating transcript); DLB Decl. Ex. 140 & DLB Decl. Ex. 23 at 248:19-249:25 (authenticating transcript); DLB Decl. Ex. 141 & DLB Decl. Ex. 23 at 260:12-261:13 (authenticating transcript); DLB Decl. Ex. 142 & DLB Decl. Ex. 23 at 272:8-14 (authenticating transcript); DLB Decl. Ex. 143 & DLB Decl. Ex. 23 at 293:6-20 (authenticating transcript); DLB Decl. Ex. 144 & DLB Decl. Ex. 152 at 156:17-157:20 (authenticating transcript); DLB Decl. Ex. 145 & DLB Decl. Ex. 152 at 177:10-178:13 (authenticating transcript); DLB Decl. Ex. 146 & DLB Decl. Ex. 32 at 76:7-14 (authenticating transcript); DLB Decl. Ex. 147 & DLB Decl. Ex. 32 at 81:8-22 (authenticating transcript); DLB Decl. Ex. 148 & DLB Decl. Ex. 32 at 86:11-14 (authenticating transcript); DLB Decl. Ex. 149 & DLB Decl. Ex. 32 at 107:16-108:10 (authenticating transcript); DLB Decl. Ex. 150 & DLB Decl. Ex. 32 at 112:5-11 (authenticating transcript); DLB Decl. Ex. 151 & DLB Decl. Ex. 32 at 138:8-19 (authenticating transcript); DLB Decl. Ex. 153 & DLB Decl. Ex. 32 at 239:17-24 (authenticating transcript); DLB Decl. Ex. 23 at 233:2-234:18, 245:2-247:13; DLB Decl. Ex. 32 at 151:16-153:13; DLB Decl. Ex. 47 at 255:19-257:5, 259:3-260:15; DLB Decl. Ex. 58 at 195:24-199:13; DLB Decl. Ex. 61 at 166:14-167:20; DLB Decl. Ex. 78 at 278:22-279:23; DLB Decl. Ex. 92 at 213:14-215:9, 227:10-228:13, 265:4-266:11, 282:12-283:21; DLB Decl. Ex. 154 at 374:3-377:12; DLB Decl. Ex. 12-14, 18, 20, 21, 26, 84, 97-99, 109, 114, 154-206.

¹²² DLB Decl. Ex. 22.

¹²³ *See also Am. Tobacco Co. v. U.S.*, 328 U.S. 781, 810 (1946) ("Where the circumstances are such as to warrant a jury in finding that the conspirators had a unity of purpose or common design and understanding . . . the conclusion that a conspiracy is established is justified."); *Am. Column & Lumber Co. v. U.S.*, 257 U.S. 377, 410-12 (1921) (finding unlawful a plan among competitors to exchange current price, sales and other information, facilitated by association that administered plan); *Osborn v. Visa Inc.*, 797 F.3d 1057, 1066-67 (D.C. Cir. 2015) (upholding claim for unlawful concerted action where members of an association "used" an association to adopt and implement anticompetitive pricing rules); *In re Currency Conversion Fee Antitrust Litig.*, 265 F. Supp. 2d 385, 418-19 (S.D.N.Y. 2003) (inference of a horizontal price-fixing agreement can be drawn based on "facilitating practice" including "information exchange").

counterparties) realized ISDAfix rates were being manipulated, they would stop using the benchmark. Traders from separate banks warned each other to “ [REDACTED] ” about after news broke about collusion investigations in other markets.¹²⁴ ICAP brokers warned each other not to let other brokers know the “ [REDACTED] ” about how they helped the Banks to manipulate the 19901 Screen.¹²⁵ Defendants hid the truth even from ISDA.

Investors occasionally complained that they often seemed to lose on USD ISDAfix-linked transactions. Defendants assured their customers that it was just a matter of bad luck. For example, in March 2007, Countrywide Securities emailed ICAP regarding suspicious activity in certain swap tenors prior to 11:00 a.m.¹²⁶ Countrywide’s complaint was shared internally at Nomura,¹²⁷ Citi,¹²⁸ and Goldman Sachs¹²⁹ on the same day. Each Bank denied that any manipulation was occurring, and no investor could have known that the rigorous protections against manipulation had been circumvented by Defendants’ scheme.

In June 2010, the *Financial Times* published an article that raised questions regarding strange activity on the 19901 Screen every morning at 11:00 a.m.¹³⁰ The article noted suspicions that prices on ICAP’s 19901 Screen “sometimes move before 11am in ways that could benefit big banks to the cost both of their clients and of financial groups that are outside the charmed

¹²⁴ DLB Decl. Ex. 24.

¹²⁵ DLB Decl. Ex. 25.

¹²⁶ DLB Decl. Ex. 196 ([REDACTED]).

¹²⁷ DLB Decl. Ex. 207 ([REDACTED]).

¹²⁸ DLB Decl. Ex. 208 ([REDACTED]).

¹²⁹ DLB Decl. Ex. 192 ([REDACTED]); DLB Decl. Ex. 193 ([REDACTED]).

¹³⁰ Michael Mackenzie & Gillian Tett, “Markets: Frozen in Time” *Financial Times* (June 15, 2010) (“2010 FT Article”) available with subscription at <http://tinyurl.com/y984crx3>.

circle.” Defendants circulated the article among themselves,¹³¹ some expressing alarm and regret that it was “[.]”¹³² High-level ISDA and ICAP employees immediately coordinated a response to defuse any scrutiny.¹³³ The first and only thought of both organizations was to bury the story.¹³⁴ The Banks that dominated ISDA’s board also did nothing to address the rampant manipulation.

The CFTC inquired about ISDAfix in the summer and fall of 2010. ICAP and ISDA, however, assured the CFTC that everything was working as it should be. ISDA’s then-CEO noted, “[.]”¹³⁵ This cover-up was successful, and it was not until November 2012 that the CFTC began to investigate in earnest.¹³⁶

In May of 2011, hedge fund Brevan Howard emailed Morgan Stanley to complain about manipulative and “[.]” trading.¹³⁷ The Morgan Stanley traders did their best to explain away their brazenly manipulative trading.¹³⁸ For its part, ICAP denied hearing any complaints about manipulation at all.¹³⁹

¹³¹ DLB Decl. Ex. 209.

¹³² DLB Decl. Ex. 187.

¹³³ DLB Decl. Ex. 210; DLB Decl. Ex. 1 at 187:4-191:5.

¹³⁴ [REDACTED]. DLB Decl. Ex. 60 at 242:24-243:3, 243:18-244:13.

¹³⁵ DLB Decl. Ex. 211.

¹³⁶ Matthew Leising & Tom Schoenberg, “CFTC Said to Alert Justice Department of Criminal Rate Rigging,” Bloomberg (Sept. 9, 2014), *available with subscription at* <https://tinyurl.com/ne28ocn>.

¹³⁷ DLB Decl. Ex. 212 ([REDACTED]).

¹³⁸ DLB Decl. Ex. 213 ([REDACTED]).

¹³⁹ DLB Decl. Ex. 59 at 106:23-108:12.

2. Defendants stalled attempts to reform ISDAfix

ISDA staff began to examine how USD ISDAfix was being set in response to the 2010 *Financial Times* article, and a letter from the CEOs of two of ICAP's competitor interdealer brokers expressing concern about the possibility of "[REDACTED]" in the current ISDAfix process.¹⁴⁰ ISDA staff concluded that there was no justification for ICAP's different USD ISDAfix process,¹⁴¹ and pursued reform through the ISDA Rates Steering Committee, a committee that was dominated by dealers. ISDA proposed [REDACTED]

[REDACTED].¹⁴²

Traders at several banks discussed ISDA's proposal. One Goldman Sachs trader was in favor of the current system.¹⁴³ Two Citi traders responded internally, stating "[REDACTED]"

[REDACTED].¹⁴⁴ Two JPMorgan traders similarly responded that "[REDACTED]".¹⁴⁵ A Barclays trader stated, "[REDACTED]"

[REDACTED]
[REDACTED]¹⁴⁶ UBS "[REDACTED]".¹⁴⁷

Although the internal feedback at the Banks was nearly unanimously against reform, Goldman Sachs and Deutsche Bank eventually voted in favor of the ISDA proposal.¹⁴⁸

¹⁴⁰ DLB Decl. Ex. 214 ([REDACTED]).

¹⁴¹ DLB Decl. Ex. 34 at 247:8-248:17 ([REDACTED]).

¹⁴² DLB Decl. Ex. 215 at 2.

¹⁴³ DLB Decl. Ex. 216.

¹⁴⁴ DLB Decl. Ex. 188.

¹⁴⁵ DLB Decl. Ex. 217.

¹⁴⁶ DLB Decl. Ex. 218.

¹⁴⁷ DLB Decl. Ex. 219.

¹⁴⁸ DLB Decl. Ex. 220 ([REDACTED]).

JPMorgan, BNPP, UBS, and Citi notified ISDA that they supported the current methodology.¹⁴⁹

JPMorgan opined there “ [REDACTED] ” and stated it did not “ [REDACTED] ”.

[REDACTED].¹⁵⁰ BNPP commented that their traders were “ [REDACTED] ”.¹⁵¹

UBS stated it would “ [REDACTED] ”.

[REDACTED].¹⁵² Citi expressed its “ [REDACTED] ”.¹⁵³ Wells Fargo

stated it would go with the consensus.¹⁵⁴ ICAP argued that without the reference rates and

spreads, not enough Banks would contribute at all, leading to days where USD ISDAfix could

not be published.¹⁵⁵ But this notion was contradicted by ISDA’s research, which showed that the

other currencies rarely, if ever, failed to publish.¹⁵⁶

Defendants’ resistance to changing the USD methodology surprised ISDA’s staff, who “ [REDACTED] ” with that of the other

currencies.¹⁵⁷ ISDA concluded that, although there was no persuasive “ [REDACTED] ”,

[REDACTED], the Banks would “ [REDACTED] ”.¹⁵⁸ The matter was quietly dropped. ISDA’s

corporate witness, having reviewed the CFTC’s settlement orders related to ISDAfix, testified

¹⁴⁹ DLB Decl. Ex. 222 ([REDACTED]).

¹⁵⁰ DLB Decl. Ex. 223.

¹⁵¹ DLB Decl. Ex. 224.

¹⁵² DLB Decl. Ex. 225.

¹⁵³ DLB Decl. Ex. 226.

¹⁵⁴ DLB Decl. Ex. 227.

¹⁵⁵ DLB Decl. Ex. 228 ([REDACTED]).

¹⁵⁶ DLB Decl. Ex. 229 ([REDACTED]).

¹⁵⁷ DLB Decl. Ex. 34 at 211:5-214:3; DLB Decl. Ex. 215 at 1 ([REDACTED]).

¹⁵⁸ DLB Decl. Ex. 229; *see also* DLB Decl. Ex. 34 at 247:8-248:21 ([REDACTED]); DLB Decl. Ex. 230 ([REDACTED]).

[REDACTED]; DLB Decl. Ex. 231 ([REDACTED]).

that her prior assumption that the Banks had acted in good faith in setting USD ISDAfix during the Class Period had been “[REDACTED]”¹⁵⁹ and that “[REDACTED]”¹⁶⁰

In response to the LIBOR scandal, and disclosures that ISDAfix itself might be a target, the Banks ceased rubber-stamping the reference rates and spreads circulated by ICAP in late 2012.¹⁶¹ ISDA finally secured support for reforming the USD ISDAfix process but ultimately decided to cease publishing ISDAfix altogether.

ARGUMENT

I. LEGAL STANDARD

“Class actions serve an important function in our system of civil justice.” *Gulf Oil Co. v. Barnard*, 452 U.S. 89, 99 (1981). Because they provide a single forum in which to litigate the same or similar claims, class actions afford an indispensable mechanism for the conservation of judicial resources. *See In re Nassau County Strip Search Cases*, 461 F.3d 219, 230 (2d Cir. 2006). Rule 23 aims to “achieve economies of time, effort, and expense.” *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 615 (1997).

Under Rule 23(a), a proposed class must satisfy the requirements of numerosity, commonality, typicality, and adequacy. *Roach v. T.L. Cannon Corp.*, 778 F.3d 401, 405 (2d Cir. 2015). The movant must also show that certification is appropriate under Rule 23(b). Here, certification is appropriate because “questions of law or fact common to class members predominate over any questions affecting only individual members,” and “a class action is superior to other available methods for fairly and efficiently adjudicating the controversy.” Fed. R. Civ. P. 23(b)(3).

¹⁵⁹ DLB Decl. Ex. 34 at 333:11-19.

¹⁶⁰ *Id.* at 352:6-20.

¹⁶¹ *See Williams Report* at ¶11, 17 (“92%” of ISDAfix submissions were identical to the ICAP reference rates and spreads between 2006 and 2012, but only “62%” were in 2013).

Each element of Rule 23 must be shown by a preponderance of the evidence. *Johnson v. Nextel Commc'ns Inc.*, 780 F.3d 128, 137 (2d Cir. 2015). The Second Circuit has repeatedly emphasized that “Rule 23 should be given liberal rather than restrictive construction, and it seems beyond peradventure that the Second Circuit’s general preference is for granting rather than denying class certification.” *See Pichardo v. Carmine’s Broadway Feast Inc.*, 2016 WL 4379421, at *4 (S.D.N.Y. June 13, 2016), *adopted* 2016 WL 5338551 (Sept. 23, 2016); *Enea v. Bloomberg, L.P.*, 2014 WL 1044027, at *2 (S.D.N.Y. Mar. 17, 2014) (same).¹⁶² Any “[d]oubts concerning the propriety of class certification should be resolved in favor of class certification.” *Ballinger v. Advance Magazine Publishers, Inc.*, 2014 WL 7495092, at *3 (S.D.N.Y. Dec. 29, 2014).¹⁶³ This approach applies with particular force to antitrust claims, “[b]ecause of the important role that class actions play in the private enforcement of antitrust actions.” *In re Playmobil Antitrust Litig.*, 35 F. Supp. 2d 231, 239 (E.D.N.Y. 1998).¹⁶⁴

As part of the class certification analysis, courts resolve factual disputes only to the extent necessary to determine compliance with Rule 23. *See Shahriar v. Smith & Wollensky Rest. Grp., Inc.*, 659 F.3d 234, 251 (2d Cir. 2011); *Amgen Inc. v. Conn. Ret. Plans and Trust Funds*, 568 U.S. 455, 460-66 (2013) (merits may be considered *only* to the extent “relevant to determining whether the Rule 23 prerequisites for class certification are satisfied” because the purpose of the class certification analysis is merely “to select the method best suited to adjudication of the controversy fairly and efficiently”).

¹⁶² *See also In re Air Cargo Shipping Servs. Antitrust Litig.*, 2014 WL 7882100, at *29 (E.D.N.Y. Oct. 15, 2014), *adopted* 2015 WL 5093503 (July 10, 2015) (“Courts in this circuit employ a liberal rather than restrictive construction of Rule 23[.]”).

¹⁶³ *See also In re Amaranth Nat. Gas Commodities Litig.*, 269 F.R.D. 366, 378 (S.D.N.Y. 2010) (“If there is an error to be made, let it be in favor and not against the maintenance of the class action, for it is always subject to modification should later developments during the course of the trial so require.”).

¹⁶⁴ *Accord, e.g., In re Static Random Access Memory (SRAM) Antitrust Litig.*, 264 F.R.D. 603, 608 (N.D. Cal. 2009); *In re Carbon Black Antitrust Litig.*, 2005 WL 102966, at *9 (D. Mass. Jan. 18, 2005); *In re Vitamins Antitrust Litig.*, 209 F.R.D. 251, 258 (D.D.C. 2002).

Plaintiffs readily satisfy the requirements of Rule 23. The existence and scope of Defendants' conspiracy, the injury the conspiracy inflicted on Class members, and the damages incurred as a result are capable of proof by evidence that is common to the class. The common issues that will arise during the proof of these elements are far more substantial than any hypothetical "individual" issues that could arise. Indeed, the Supreme Court has noted that Rule 23(b)(3)'s predominance requirement "is a test readily met in certain cases alleging consumer or securities fraud or violations of the antitrust laws." *Amchem*, 521 U.S. at 625.¹⁶⁵

II. THE PROPOSED CLASSES MEET THE REQUIREMENTS OF RULE 23(A)

A. The Proposed Antitrust Class Satisfies Rule 23(a)

1. Numerosity

Rule 23(a)(1) requires that the class be "so numerous that joinder of all members is impracticable." "[I]mpracticability exists where . . . joinder of all claims into one proceeding would be expensive, time-consuming, and logistically unfeasible." *MacNamara v. City of N.Y.*, 275 F.R.D. 125, 137 (S.D.N.Y. 2011). "The Second Circuit has held that 'numerosity is presumed at a level of 40 members.'" *Ge Dandong v. Pinnacle Performance Ltd.*, 2013 WL 5658790, at *4 (S.D.N.Y. Oct. 17, 2013) (Furman, J.) (quoting *Consolidated Rail Corp. v. Town of Hyde Park*, 47 F.3d 473, 483 (2d Cir. 1995)). As discussed in Prof. Pirrong's report, even looking at only vanilla swaps and certain types of swaptions, across just a few of the Defendants' databases, has found thousands of Class Members. Pirrong Report ¶¶207-215. Numerosity is satisfied.

¹⁶⁵ See also *Dial Corp. v. News Corp.*, 314 F.R.D. 108, 120 (S.D.N.Y. 2015) (the need to derive individual damages amounts from an aggregate calculation "pales in comparison to the central questions regarding liability, which are susceptible to common proof"); *In re Elec. Books Antitrust Litig.*, 2014 WL 1282293, at *13 (S.D.N.Y. Mar. 28, 2014) (anticompetitive agreements by competitors present "the type of situation for which the class action device is suited").

The members of the proposed Classes are also “objectively ascertainable.” *See In re Petrobras Secs.*, 2017 WL 2883874, at *8 (2d Cir. July 7, 2017) (“The ascertainability doctrine that governs in this Circuit requires only that a class be defined using objective criteria that establish a membership with definite boundaries.”).¹⁶⁶ Here, members of the Classes are identifiable from transaction records that detail each entity that purchased from Defendants or sold to Defendants swaps, physically settled swaptions, and/or ISDAfix Transactions. *See* Pirrong Report ¶¶191-194. From these records, the “contours of this class are clearly set forth and class membership can easily be determined.” *See Friedman-Katz v. Lindt & Sprungli (USA), Inc.*, 270 F.R.D. 150, 154 (S.D.N.Y. 2010).¹⁶⁷

2. Commonality

Rule 23(a)(2) requires that there be “questions of law or fact common to the class.” Commonality is established where a classwide proceeding may “generate common answers apt to drive the resolution of the litigation.” *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 350 (2011). The commonality requirement “is not demanding,” *Brooklyn Ctr. for Indep. of the Disabled v. Bloomberg*, 290 F.R.D. 409, 418 (S.D.N.Y. 2012) (Furman, J.), and poses “a ‘low hurdle.’” *Anwar v. Fairfield Greenwich Ltd.*, 289 F.R.D. 105, 111 (S.D.N.Y. 2013). Even “a single common question will do.” *Wal-Mart*, 564 U.S. at 359.¹⁶⁸

¹⁶⁶ “The standard for ascertainability is not demanding and is designed only to prevent the certification of a class whose membership is truly indeterminable.” *Ebin v. Kangadis Food Inc.*, 297 F.R.D. 561, 567 (S.D.N.Y. 2014). Ascertainability does not require plaintiffs to “identify a comprehensive roster of putative class members at the certification stage” but rather only that “class members will be, at some point, readily identifiable without resort to individualized hearings.” *Royal Park Invs. SA/NV v. Deutsche Bank Nat’l Trust Co.*, 2017 WL 1331288, at *8 (S.D.N.Y. Apr. 4, 2017).

¹⁶⁷ All named Plaintiffs are Proposed Class Representatives for the Antitrust Class.

¹⁶⁸ Rule 23(a)(2) in no way “mandate[s] that all class members make identical claims and arguments, only that [the] common issues of fact or law affect all class members,” and “[a] court may find a common issue of law even though there exists some factual variation among class members’ specific grievances.” *Stinson v. City of N.Y.*, 282 F.R.D. 360, 369 (S.D.N.Y. 2012).

Plaintiffs' antitrust claim raises substantial common questions, including whether: (i) Defendants conspired to corrupt the USD ISDAfix process, (ii) Defendants manipulated the USD ISDAfix benchmark rates, (iii) each Defendant took acts in furtherance of the conspiracy, and (iv) the conspiracy violated § 1 of the Sherman Act.¹⁶⁹

3. Typicality

Rule 23(a)(3) requires that "the claims or defenses of the representative parties are typical of the claims or defenses of the class." Typicality "ensure[s] that class representatives have the incentive to prove all the elements of the cause of action which would be presented by the individual members of the class were they initiating individualized actions." *Floyd v. City of N.Y.*, 283 F.R.D. 153, 175 (S.D.N.Y. 2012). The typicality requirement is "not demanding." *Tsereteli v. Residential Asset Securitization Trust 2006-A8*, 283 F.R.D. 199, 208 (S.D.N.Y. 2012); *Dial Corp.*, 314 F.R.D. at 113 (same). It requires only that "each class member's claim arises from the same course of events and each class member makes similar legal arguments to prove the defendant's liability." *In re Flag Telecom Holdings, Ltd. Sec. Litig.*, 574 F.3d 29, 35 (2d Cir. 2009). Here, all claims arise from a single course of conduct by all Defendants and rely on identical legal arguments.

"Claims in antitrust price-fixing cases generally satisfy Rule 23(a)(3)'s typicality requirement because typicality in the antitrust context will be established by plaintiffs and all class members alleging the same antitrust violations by the defendants. . . . [T]he typicality requirement is usually met irrespective of minor variations in the fact patterns underlying

¹⁶⁹ See *Cordes & Co. Fin. Servs., Inc. v. A.G. Edwards & Sons, Inc.*, 502 F.3d 91, 105 (2d Cir. 2007) ("allegations of existence of . . . conspiracy are susceptible to common proof"); *Allen v. Dairy Farmers of Am., Inc.*, 279 F.R.D. 257, 264 (D. Vt. 2011) ("Notwithstanding the complexities of a particular market . . . allegations concerning the existence, scope, and efficacy of an alleged antitrust conspiracy present important common questions sufficient to satisfy the commonality requirement[.]"); *In re Platinum & Palladium Commodities Litig.*, 2014 WL 3500655, at *9 (S.D.N.Y. July 15, 2014) ("Numerous courts have held that allegations concerning the existence, scope, and efficacy of an alleged antitrust conspiracy present important common questions sufficient to satisfy the commonality requirement of Rule 23(a)(2).").

individual claims.” *Allen*, 279 F.R.D. at 272. *See also In re Currency Conversion Fee Antitrust Litig.*, 264 F.R.D. 100, 111 (S.D.N.Y. 2010) (holding that named plaintiffs’ claims were typical because they need to prove “a conspiracy, its effectuation, and damages therefrom—precisely what the absent class members must prove to recover”).¹⁷⁰

Here, the Class representatives’ and Class members’ claims alike arise from the same alleged conspiracy, carried out by the same Defendants, giving rise to the same legal theories of liability. *See Freeland v. AT&T Corp.*, 238 F.R.D. 130, 141 (S.D.N.Y. 2006) (typicality satisfied where “[a]ll members’ claims [would be] based on the same legal theories of conspiring . . . and tak[ing] other actions that violate federal antitrust laws”). Like members of the Class, the named Plaintiffs here engaged in swaps, physically settled swaptions, and ISDAfix Transactions impacted by Defendants’ manipulation of ISDAfix and will rely on questions of law and fact common to the class to prove liability and damages.

For example, the Alaska Fund transacted in relevant instruments (including swaps and swaptions) with one or more Defendant Banks, including Bank of America, Barclays, BNPP, Citibank, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley, RBS, UBS, and Wells Fargo.¹⁷¹ Analysis by Prof. Pirrong has found that applying the artificiality ribbon (*see* Section II.B below) in its current form to the Alaska Fund’s transactional data results in over three hundred transactions that were negatively impacted, including transactions with Morgan Stanley and BNPP. Pirrong Report ¶199.

¹⁷⁰ *Accord In re Air Cargo*, 2014 WL 7882100, at *31 (observing that in claims alleging antitrust conspiracies, “it is nearly tautological that the class representatives will rely on the same factual and legal arguments to establish the defendants’ liability”); *NASDAQ Mkt.-Makers*, 169 F.R.D. at 511 (representative parties generally typical in conspiracy cases).

¹⁷¹ *See, e.g.*, DLB Decl. Ex. 232.

Similarly, Genesee County transacted in relevant instruments (including swaps and swaptions) with one or more Defendant Banks, including Bank of America,¹⁷² Barclays,¹⁷³ Citigroup,¹⁷⁴ Credit Suisse,¹⁷⁵ Deutsche Bank,¹⁷⁶ Goldman Sachs,¹⁷⁷ JPMorgan,¹⁷⁸ Morgan Stanley,¹⁷⁹ and RBS.¹⁸⁰ Analysis by Prof. Pirrong has found that applying the artificiality ribbon in its current form to Genesee County's transactional data results in over a hundred transactions that were negatively impacted, including transactions with Morgan Stanley. Pirrong Report ¶200.

And Montgomery County transacted in a relevant instrument (a non-vanilla, ISDAfix-linked swap) with UBS, one of the Defendant Banks.¹⁸¹ Although Prof. Pirrong has not yet completed a full modeling of the transaction, he has confirmed that applying the artificiality ribbon to this transaction finds that at least one component of the payment calculations was negatively impacted. Pirrong Report ¶201.

Washington County entered into an agreement with JPMorgan, one of the Defendant Banks, during the Class Period that converted a swap underlying a pre-existing swaption into an ISDAfix-linked swap.¹⁸² Later, as the swaption (held by JPMorgan) was deep in the money, it was terminated. Both times, Washington County had to pay JPMorgan a hefty fee. While Prof. Pirrong's work in applying the artificiality ribbon to this slightly more complex instrument is

¹⁷² See, e.g., DLB Decl. Ex. 233 (swap).

¹⁷³ See, e.g., DLB Decl. Ex. 234 (swap); DLB Decl. Ex. 235 (swaption).

¹⁷⁴ See, e.g., DLB Decl. Ex. 236 (swap); DLB Decl. Ex. 237 (swaption).

¹⁷⁵ See, e.g., DLB Decl. Ex. 238 (swap); DLB Decl. Ex. 239 (swaption).

¹⁷⁶ See, e.g., DLB Decl. Ex. 240 (swap).

¹⁷⁷ See, e.g., DLB Decl. Ex. 241 (swap); DLB Decl. Ex. 242 (swaption).

¹⁷⁸ See, e.g., DLB Decl. Ex. 243 (swap); DLB Decl. Ex. 244 (swaption).

¹⁷⁹ See, e.g., DLB Decl. Ex. 245 (swap).

¹⁸⁰ See, e.g., DLB Decl. Ex. 246 (swap); DLB Decl. Ex. 247 (swaption).

¹⁸¹ See, e.g., DLB Decl. Ex. 248; DLB Decl. Ex. 249.

¹⁸² See, e.g., DLB Decl. Ex. 250.

ongoing, this instrument—with an underlying swap directly linked to ISDAfix—was clearly impacted by the fact that ISDAfix rates were artificial both times that Washington County was forced to make payments to JPMorgan. *See* Pirrong Report ¶202.

New Britain transacted in relevant instruments (including swaps and a constant maturity swap) with Deutsche Bank, one of the Defendant Banks.¹⁸³ Analysis by Prof. Pirrong has found that applying the artificiality ribbon in its current form to New Britain's transactional data shows that New Britain was negatively impacted on at least one transaction. Pirrong Report ¶203.

The Commission transacted in relevant instruments (non-vanilla, ISDAfix-linked swaps) with one or more Defendant Banks, including Deutsche Bank,¹⁸⁴ JPMorgan,¹⁸⁵ Bank of America (Merrill Lynch),¹⁸⁶ and UBS.¹⁸⁷ Although Prof. Pirrong has not yet completed a full modeling of these transactions, he has confirmed that at least one component of the payment calculations was negatively impacted for at least one of these instruments. Pirrong Report ¶204.

EAA transacted in relevant instruments (including swaps and swaptions) with one or more Defendant Banks, including BNPP,¹⁸⁸ Credit Suisse,¹⁸⁹ Deutsche Bank,¹⁹⁰ Goldman Sachs,¹⁹¹ HSBC,¹⁹² and JPMorgan.¹⁹³ Applying the artificiality ribbon in its current form to EAA's transactional data, Prof. Pirrong has found that EAA was negatively impacted on multiple transactions, including with BNPP. Pirrong Report ¶205.

¹⁸³ *See, e.g.*, DLB Decl. Ex. 251; DLB Decl. Ex. 280.

¹⁸⁴ *See, e.g.*, DLB Decl. Ex. 252; DLB Decl. Ex. 253; DLB Decl. Ex. 254.

¹⁸⁵ *See, e.g.*, DLB Decl. Ex. 255; DLB Decl. Ex. 256; DLB Decl. Ex. 257; DLB Decl. Ex. 258; DLB Decl. Ex. 259.

¹⁸⁶ *See, e.g.*, DLB Decl. Ex. 260; DLB Decl. Ex. 261; DLB Decl. Ex. 262; DLB Decl. Ex. 263; DLB Decl. Ex. 264.

¹⁸⁷ *See, e.g.*, DLB Decl. Ex. 265; DLB Decl. Ex. 266; DLB Decl. Ex. 267; DLB Decl. Ex. 268.

¹⁸⁸ *See, e.g.*, DLB Decl. Ex. 269.

¹⁸⁹ *See, e.g.*, DLB Decl. Ex. 270.

¹⁹⁰ *See, e.g., id.*; DLB Decl. Ex. 271.

¹⁹¹ *See, e.g.*, DLB Decl. Ex. 272.

¹⁹² *See, e.g.*, DLB Decl. Ex. 273.

¹⁹³ *See, e.g.*, DLB Decl. Ex. 270.

Portigon AG transacted in relevant instruments (including swaps and swaptions) with one or more Defendant Banks, including Bank of America,¹⁹⁴ Barclays,¹⁹⁵ BNPP,¹⁹⁶ Citigroup,¹⁹⁷ Credit Suisse,¹⁹⁸ Deutsche Bank,¹⁹⁹ Goldman Sachs,²⁰⁰ HSBC,²⁰¹ JPMorgan,²⁰² Morgan Stanley,²⁰³ Nomura,²⁰⁴ RBS,²⁰⁵ UBS,²⁰⁶ and Wells Fargo.²⁰⁷ Analysis by Prof. Pirrong has found that applying the artificiality ribbon in its current form to Portigon AG's transactional data results in over two hundred transactions that were negatively impacted, including transactions with Morgan Stanley, BNPP, Wells Fargo, and Nomura, and including specifically what counsel has identified to be cash-settled swaptions with BNPP and Nomura. Pirrong Report ¶¶206.

Although there may be variations between Plaintiffs and some Class members concerning the details of their respective transactions, “[t]he focus of the typicality inquiry is not on the plaintiffs’ behavior, but rather on the defendant’s actions.” *Kottler v. Deutsche Bank AG*, 2010 WL 1221809, at *2 (S.D.N.Y. Mar. 29, 2010). Differences concerning the timing or size of each affected transactions or the manner by which each Plaintiff transacted, do not render their claims atypical where all claims “rely on the same legal theories, and arise from the same alleged illegal agreement, as do those of the absent class members.” *In re: Processed Egg Prods. Antitrust Litig.*, 2016 WL 3584632, at *10 (E.D. Pa. June 30, 2016); *see also In re Mushroom Direct*

¹⁹⁴ See, e.g., DLB Decl. Ex. 270, DLB Decl. Ex. 274.

¹⁹⁵ See, e.g., *id.*

¹⁹⁶ See, e.g., DLB Decl. Ex. 272, DLB Decl. Ex. 274, DLB Decl. Ex. 275, DLB Decl. Ex. 282.

¹⁹⁷ See, e.g., DLB Decl. Ex. 270, DLB Decl. Ex. 275.

¹⁹⁸ See, e.g., DLB Decl. Ex. 270, DLB Decl. Ex. 274.

¹⁹⁹ See, e.g., *id.*

²⁰⁰ See, e.g., *id.*

²⁰¹ See, e.g., *id.*

²⁰² See, e.g., DLB Decl. Ex. 270, DLB Decl. Ex. 275.

²⁰³ See, e.g., *id.*

²⁰⁴ See, e.g., DLB Decl. Ex. 270, DLB Decl. Ex. 274.

²⁰⁵ See, e.g., DLB Decl. Ex. 270, DLB Decl. Ex. 275.

²⁰⁶ See, e.g., *id.*

²⁰⁷ See, e.g., DLB Decl. Ex. 270, DLB Decl. Ex. 274.

Purchaser Antitrust Litig., 319 F.R.D. 158, 187 (E.D. Pa. 2016) (“Differing purchasing methods and prices do not necessarily defeat a finding of typicality and adequacy, provided that the alleged misconduct applies across the array of methods, and prices.”).

Most fundamentally, all Class members are incentivized to prove that Defendants violated the antitrust laws. Variations in the amount, date, size, manner of purchase, the type of purchase, ability to individually negotiate, and other such issues will not defeat class certification “when the plaintiffs allege that the same unlawful course of conduct affected all members of the proposed class.” *In re Air Cargo Shipping Servs. Antitrust Litig.*, 2014 WL 7882100, at *32 (E.D.N.Y. Oct. 15, 2014), *adopted* 2015 WL 5093503 (July 10, 2015).

4. Adequacy

Rule 23(a)(4) asks whether “the representative parties will fairly and adequately protect the interests of the class”—that is, are the Class representatives’ interests “antagonistic” to the those of other Class members, and are class counsel “qualified, experienced and able to conduct the litigation.” *Flag Telecom*, 574 F.3d at 35. This factor will bar certification only where “fundamental” conflicts exist. *Id.* Courts reject adequacy challenges to class certification where there is only “the possibility of hypothetical conflicts or antagonisms among class members” because such conflicts are not “apparent, imminent, and on an issue at the very heart of the suit.” *In re NASDAQ Market-Makers Antitrust Litig.*, 169 F.R.D. 493, 513-14 (S.D.N.Y. 1996); *Fears v. Wilhelmina Model Agency, Inc.*, 2003 WL 21659373, at *5 (S.D.N.Y. July 15, 2003) (same).

Here, the interests of the Class representatives are not antagonistic to the interests of those of the Class. The Class representatives and members of the Class share the same interest in maximizing their recovery from the remaining Defendants.²⁰⁸ Indeed, the Class representatives

²⁰⁸ See also *Platinum & Palladium*, 2014 WL 3500655, at *10 (certifying class for settlement purposes over adequacy objection based on the inclusion of both persons who were short and long and noting that “[t]he fact that

have already obtained over \$400 million in settlements for the Class by reaching settlements with ten Defendants. Plaintiffs satisfy the adequacy requirements under Rule 23(a)(4) because they have (1) undertaken substantial document discovery efforts, including collecting, reviewing and producing thousands to millions of documents; (2) had senior personnel sit for depositions;²⁰⁹ (3) kept themselves informed of the progress of the litigation and reviewed certain filings and other documents; and (4) will continue to commit their resources to prosecute the action vigorously against the remaining Defendants through trial and appeal. For example, EAA and Portigon have produced over 4.8 million pages of discovery, as well as 250,000 lines of transactional data. Accordingly, Rule 23(a)(4) is satisfied, and Plaintiffs request that the Court appoint the Alaska Fund, Genesee County, Montgomery County, Washington County, New Britain, the Commission, EAA, and Portigon AG as Class representatives.

Plaintiffs further request that the Court appoint Quinn Emanuel Urquhart & Sullivan, LLP; Robbins Geller Rudman & Dowd LLP; and Scott+Scott, Attorneys at Law, LLP as co-lead class counsel. The Court appointed these three firms as interim co-lead class counsel in November 2014 (Dkt. No. 137). The same considerations that guided the Court's selection of interim co-lead Class counsel apply. *See In re Mun. Derivatives Antitrust Litig.*, 252 F.R.D. 184, 186 (S.D.N.Y. 2008).²¹⁰ As explained in the prior motion (Dkt. No. 125), these firms have significant expertise in complex class actions and antitrust litigation; have considerable

plaintiffs' claims are typical of the class is strong evidence that their interests are not antagonistic to those of the class. . . . Any [] class member who feels the class representatives are inadequate may raise that objection at the final approval hearing.”).

²⁰⁹ Although it has not done so yet, EAA/Portigon expects to sit for a deposition.

²¹⁰ The mandatory factors are: “(i) the work counsel has done in identifying or investigating potential claims in the action; (ii) counsel’s experience in handling class actions, other complex litigation, and the types of claims asserted in the action; (iii) counsel’s knowledge of the applicable law; and (iv) the resources that counsel will commit to representing the class.” Fed. R. Civ. P. 23(g)(1)(A).

experience in these areas; did extensive work in identifying and investigating Plaintiffs' claims; and have vigorously represented Plaintiffs.

B. The Proposed Unjust Enrichment Class Satisfies Rule 23(a)

The non-settling Defendant Banks were unjustly enriched at the expense of and to the detriment of Plaintiffs when they knowingly acted in an unfair manner by manipulating ISDAfix, in conscious and/or reckless disregard for Class members' rights. These Banks were unjustly enriched when Plaintiffs and members of the Class paid the Banks more than they otherwise would have (absent manipulation) and when the Banks paid them less than they otherwise would have (absent manipulation). This unjust enrichment exists both for ISDAfix Transactions that had cash flows and/or value directly determined by ISDAfix, plain vanilla swaps, and physically settled swaptions.²¹¹

For reasons similar to those described above for the Antitrust Class, the Unjust Enrichment Class also satisfies Rule 23(a). The proposed Class of investor counterparties is large; there are multiple questions of law and fact common to the class; the named Unjust Enrichment Plaintiffs²¹² are typical and adequate class representatives; and these Plaintiffs and counsel will continue to pursue and protect the interests of the class, as they have done to date.

The Banks were unjustly enriched because they made payments to Class members and received payments from Class members calculated using improper and inequitable means by virtue of their common antitrust scheme and contractual violations. Questions common to the proposed Class include whether Class members provided Banks with benefits in the form of

²¹¹ To be clear, Plaintiffs' unjust enrichment claim does not require the existence of a conspiracy, as it is "unjust" for the Banks to profit even from supposedly unilateral manipulations of ISDAfix rates. This claim is also not limited to ISDAfix-cash-flow contracts. For example, it encompasses circumstances where Class members agree to pay a higher fixed rate or receive a lower fixed rate on a vanilla swap or a vanilla swap that was part of a physically settled swaption.

²¹² Proposed Class Representatives for the Unjust Enrichment Class are the Alaska Fund, Genesee County, EAA, and Portigon AG.

underpayments by Banks or overpayments by Class members, and whether it would be unjust for counterparty Banks to retain those benefits. Common issues thus exist across the Unjust Enrichment Class—namely whether the law would recognize that it would be “unjust” for the banks to keep any profits on any transaction that are tied to their manipulation of ISDAfix rates. Likewise, the measure of damages is determined in the same manner as described below, as there is only one “but for” ISDAfix rate for all Class members.

Plaintiffs’ unjust enrichment claim is amenable to classwide proof and resolution because it, too, focuses on the Banks’ conduct and seeks damages (the Banks’ disgorgement of unlawful or inequitable proceeds they withheld or received on swaps, physically settled swaptions and ISDAfix Transactions with Class members) that can be calculated on a classwide basis.

C. The Proposed Contract Class Satisfies Rule 23(a)

The Proposed Contract Class involves claims based on transactions where a Class member received or made a payment during the Class Period on an ISDAfix Transaction entered into with BNPP or Nomura, whose cash flows were expressly tied to USD ISDAfix. The trades of the relevant Plaintiffs and the Class members were governed by ISDA Master Agreements, which are standardized contracts.²¹³

The contract claims involve common issues and can be proven by common evidence. They involve BNPP or Nomura’s breach of uniform provisions in standardized ISDA Master Agreements and related ISDA Definitions that governed the transactions at issue. *See* Farrell Report ¶¶25, 285-97. Common questions include whether there were standard provisions governing the calculations by BNPP or Nomura as Calculation Agent under their ISDA Master Agreements pursuant to Section 4.14 of the 2000 and 2006 ISDA Definitions, whether the

²¹³ Proposed Class Representatives for Contract Class are EAA and Portigon AG.

counterparty Bank breached its obligations thereunder, and the measure of harm caused by such breaches.²¹⁴

Where the transactions at issue settled by reference to, or otherwise had cash flows tied to, ISDAfix rates (*e.g.*, cash-settled swaptions), BNPP and Nomura each had a contractual duty to act in good faith and in a commercially reasonable manner when determining the payments, if any, due to or from Class members—a duty they each violated when using a USD ISDAfix rate knowing that it was susceptible and routinely subject to manipulation. The relevant ISDA Master Agreements also imposed a duty to “comply in all material respects with all applicable laws . . . to which it may be subject if failure so to comply would materially impair its ability to perform its obligations under this Agreement.” BNPP and Nomura breached this obligation by violating laws—including federal antitrust laws—through their collusion to permit manipulation of and then actually manipulating ISDAfix rates. For all of the reasons provided above showing that the underlying antitrust claim involves common issues, so too does the contract claim arising (in part) on that conduct.²¹⁵

BNPP and Nomura’s breaches meant that Contract Class members’ ISDAfix Transactions were made less profitable or more expensive than they would have been. The measure of Contract Class members’ contract damages—the value that their affected transactions would have had if BNPP and Nomura had performed under their ISDA Master Agreements—is subject to estimation through the classwide damages models described below.

²¹⁴ Each Defendant Bank was the designated Calculation Agent under the relevant ISDA Master Agreements.

²¹⁵ Like the unjust enrichment claim, the breach of contract claim does not require the existence of a conspiracy. For instance, even if ISDAfix had only been supposedly unilaterally manipulated, a Defendant would not acting be in good faith by calculating payments due according to that manipulated rate.

III. THE PROPOSED CLASSES ALSO MEET THE PREDOMINANCE AND SUPERIORITY REQUIREMENTS OF RULE 23(B)(3)

Rule 23(b)(3) requires that common questions predominate over any questions affecting only individual members of the class, and that class resolution be superior to other methods for the adjudication of the controversy. Predominance involves a “qualitative assessment” of the relative importance of the issues in a case. *Dial Corp.*, 314 F.R.D. at 120. “The predominance requirement is satisfied if resolution of some of the legal or factual questions that qualify each class member’s case as a genuine controversy can be achieved through generalized proof, and if these particular issues are more substantial than the issues subject only to individualized proof.” *U.S. Foodservice*, 729 F.3d at 118.²¹⁶

While Rule 23(b)(3) requires a showing that questions common to the class predominate, it does not require “that those questions will be answered, on the merits, in favor of the class.” *Amgen*, 568 U.S. at 459.²¹⁷ Predominance is satisfied here because a “common nucleus of operative facts and issues” underpins the class’ claims. *Nassau Cty.*, 461 F.3d at 228. *See also Moore v. PaineWebber, Inc.*, 306 F.3d 1247, 1252 (2d Cir. 2002) (“Class-wide issues predominate if resolution of some of the legal or factual questions that qualify each class member’s case as a genuine controversy can be achieved through generalized proof, and if these particular issues are more substantial than the issues subject only to individualized proof.”).

²¹⁶ *See also CGC Holding Co., LLC v. Broad & Cassel*, 773 F.3d 1076, 1078, 1086 (10th Cir. 2014) (observing that under Rule 23(b)(3) “class status is appropriate as long as plaintiffs can establish an aggregation of legal and factual issues, the uniform treatment of which is superior to ordinary one-on-one litigation”); Newberg on Class Actions § 4:49 (5th ed. 2017) (predominance inquiry “asks whether the common, aggregation-enabling, issues in the case are more prevalent or important than the non-common, aggregation-defeating, individual issues”).

²¹⁷ *See also id.* at 466 (“An evaluation of the probable outcome on the merits is not properly part of the certification decision.”); *In re High-Tech Employee Antitrust Litig.*, 985 F. Supp. 2d 1167, 1184 (N.D. Cal. 2013) (“The office of a Rule 23(b)(3) certification ruling is not to adjudicate the case; rather, it is to select the method best suited to adjudication of the controversy fairly and efficiently.”). In order to justify certification, a plaintiff need only advance a workable methodology for resolving questions with evidence that is predominately common to the class. *See Dial Corp.*, 314 F.R.D. at 115-16.

Defendants, by contrast, cannot show that *individual issues* predominate over those common to the class. *See Sykes v. Mel S. Harris and Assocs. LLC*, 780 F.3d 70, 87 (2d Cir. 2015) (“The mere existence of individual issues will not be sufficient to defeat certification. Rather, the balance must tip such that these individual issues predominate.”). Unless “it is clear that individual issues will overwhelm the common questions,” the predominance requirement is satisfied. *Playmobil*, 35 F. Supp. 2d at 245.²¹⁸

A class action is also the clearly superior approach to the resolution of claims. Plaintiffs have already secured over \$400 million in settlements for Class members, demonstrating the utility of the class device. In contrast, no Class member has filed an individual action, and it is unlikely individual actions would be feasible given the complexity and expense of the case.

A. Common Questions of Law and Fact Predominate Because the Elements of Plaintiffs’ Antitrust Claim Can Be Resolved by Classwide Proof

Plaintiffs must demonstrate “that the elements of their underlying claims can be proven predominately by common evidence. Those elements include: “(1) a violation of antitrust law; (2) injury and causation; and (3) damages.” *Dial Corp.*, 314 F.R.D. at 114 (quoting *Cordes*, 502 F.3d at 105). The “narrow issue” at the class certification stage is whether these elements “are demonstrable across the class on the basis of common proof,” not whether the conspiracy actually occurred. *In re Ethylene Propylene Diene Monomer (EPDM) Antitrust Litig.*, 256 F.R.D. 82, 94 (D. Conn. 2009).

Plaintiffs’ proof of each of these elements will predominantly (indeed, overwhelmingly) raise questions of law or fact common to the Class, and Plaintiffs’ proof will focus on *Defendants’* conduct and its effect, rather than on the actions of individual investors.

²¹⁸ Rule 23’s predominance requirement does not preclude the existence of individual issues among the class. “The text of Rule 23(b)(3) itself contemplates that such individual questions will be present.” *Sykes*, 780 F.3d at 81.

1. Proving a conspiracy in violation of Section 1 is susceptible to common proof on a classwide basis

Whether Defendants violated Section 1 depends on whether their conduct “stems from independent decision or from an agreement, tacit or express.” *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 553 (2007). Such an agreement need not have been formalized or engaged in uniformly by all co-conspirators: “[Section] 1 of the Sherman Antitrust Act does not outlaw only perfect conspiracies to restrain trade.” *Currency Conversion*, 264 F.R.D. at 114 (quoting *U.S. v. Beaver*, 515 F.3d 730, 739 (7th Cir. 2008)). Here, Plaintiffs will prove that Defendants unlawfully conspired by relying on the abundant common evidence described above. The Banks’ concerted use of a corrupt and manipulated benchmark-setting process—including their collective rubber-stamping of a pre-populated reference page to facilitate manipulation—violates the antitrust laws.

Courts recognize that such evidence presents “common” or “generalized” issues for a class, because it focuses by definition on *defendants’* common activities. *Dial Corp.*, 314 F.R.D. at 114 (“[I]ssues relevant to proving a violation of the antitrust laws . . . can be proven through class-wide, common evidence because they focus on [defendants’] conduct, not on the actions of putative class members.”); *Nitsch v. Dreamworks Animation SKG Inc.*, 315 F.R.D. 270, 315 (N.D. Cal. 2016) (“antitrust violation can be shown using exclusively evidence that is common to the entire class . . . [and] is likely to be a central, disputed issue”).²¹⁹ The question of whether Defendants engaged in an anticompetitive conspiracy is common to all Plaintiffs and, therefore,

²¹⁹ *Accord In re Flonase Antitrust Litig.*, 284 F.R.D. 207, 219 (E.D. Pa. 2012); *In re Rail Freight Fuel Surcharge Antitrust Litig.*, 287 F.R.D. 1, 36 (D.D.C. 2012) (“[P]laintiffs’ allegations of price fixing indisputably will focus on the actions of the defendants, and, as such, proof for these issues will not vary among class members.”); *Meijer, Inc. v. Warner Chilcott Holdings Co. III, Ltd.*, 246 F.R.D. 293, 308 (D.D.C. 2007) (alleged violation of the antitrust laws “relates solely to Defendants’ conduct [so] proof for [this] issue will not vary among class members”). See also *Cordes*, 502 F.3d at 105.

the class will “will prevail or fail in unison” on this issue. *Amgen*, 568 U.S. at 460.²²⁰ *See also Newberg on Class Actions* §§ 18:28 & 18:29 (4th ed. 2002) (noting that allegations of antitrust conspiracies generally establish predominance of common questions). Subsequent proceedings will be dominated by evidence concerning whether Defendants unlawfully conspired to corrupt USD ISDAfix so they could manipulate it to their financial advantage.

2. Defendants’ defenses to liability will also involve predominantly common issues

Defendants have indicated that they will contest whether they reached an unlawful agreement under the antitrust laws. Defendants’ claim that no actionable agreement exists—and that they at most engaged in sporadic, unilateral misconduct—itself raises factual and legal questions that will be *common* to Class members. Class members’ antitrust claims will “prevail or fail in unison” based on the resolution of these issues. *Amgen*, 568 U.S. at 460.

Defendants, for example, may argue that they did not all meet in a single place at a single time to commit themselves to the alleged scheme. Plaintiffs will respond by pointing to the abundant evidence, summarized above, showing that each Defendant joined and participate in the concerted scheme with full knowledge they were doing so and often did discuss their scheme directly with one another. Indeed, Defendants’ actions with regard to USD ISDAfix were inherently concerted actions. They expressly *agreed* to participate in a concerted benchmark-setting process. They each signed agreements to that effect; they each knew they were part of a

²²⁰ *See also, e.g., Allen v. Dairy Farmers of Am., Inc.*, 2012 WL 5844871, at *9 (D. Vt. Nov. 19, 2012) (“Plaintiffs’ claims regarding Defendants’ alleged antitrust violations are based upon a common nucleus of operative facts and will be derived from a common body of proof that will not vary for proposed members of the class. They present common questions regarding the existence of a conspiracy, its implementation, duration, and the nature of its activities. These common questions clearly predominate over any individualized issues”); *In re Nat. Gas Commodities Litig.*, 231 F.R.D. 171, 180 (S.D.N.Y. 2005) (“It is evident that common questions of law and fact exist and predominate over individual questions in this proceeding [because] the claims of all class members arise from a common course of conduct by the Defendants [and] all class members will have to engage in the same detailed discovery to compile a common body of data, and all class members will have to engage in the same analysis of the data to establish” the elements of the violation alleged.).

panel that was *jointly* responsible for setting an important benchmark. Defendants knew as well that they had abandoned any legitimate method for setting that benchmark in favor an illegitimate one. They discussed that with each other,²²¹ internally,²²² and with ICAP, which did not hesitate to share information about Defendants' manipulation among the conspirators, even as it guarded against the "[REDACTED]" getting out to others.

As a legal matter, simultaneous action is not required for a conspiracy. In *Interstate Circuit, Inc. v. U.S.*, 306 U.S. 208, 226 (1939), for example, the Supreme Court found unlawful concerted action among movie distributors where each separately agreed with first-run movie theaters not to deal with second-run theaters. No simultaneous action or agreement was required. *See id.* at 227 ("It is elementary that an unlawful conspiracy may be and often is formed without simultaneous action or agreement on the part of the conspirators."); *id.* at 226 ("It was enough that, knowing that concerted action was contemplated and invited, the distributors gave their adherence to the scheme and participated in it.").

It is irrelevant whether the illicit conduct began the day Defendants first agreed to participate in setting USD ISDAfix or at some later point. Defendants are culpable for continuing the collaborative process that created a focal point once they knew how corrupt and illicit it had become. *See, e.g., U.S. v. Champion Int'l Corp.*, 557 F.2d 1270, 1273 (9th Cir. 1977) (affirming criminal antitrust conspiracy conviction among rival logging companies facilitated by information sharing and noting that, "despite the innocent beginnings of the noncompetitive bidding, the trial court found collusion in its continuation").²²³ No matter how the issue of whether Defendants conspired in violation of Section 1 is resolved, that resolution

²²¹ DLB Decl. Ex. 22.

²²² *E.g.*, DLB Decl. Ex. 119.

²²³ *See also Cont'l Ore Co. v. Union Carbide & Carbon Corp.*, 370 U.S. 690, 707 (1962) ("[I]t is well settled that acts which are in themselves legal lose that character when they become constituent elements of an unlawful scheme.").

will be driven by factual and legal issues common to the Class and the answer will be relevant to all Class members.

Defendants have also indicated that they will argue that they did not manipulate ISDAfix at all, but instead engaged only in legitimate “hedging” transactions. But this (very dubious) defense²²⁴ will also be contested on the basis of evidence common to the class, as it will focus on what *Defendants* did and why. Plaintiffs will rely upon wholly common evidence to show that Defendants’ effort to portray their manipulation as innocent hedging is convoluted, inconsistent, and contradictory. As Mr. Farrell explains, for example, the terminology employed and practices described in the evidence discussed above are not consistent with any legitimate hedging strategies. *See* Farrell Report ¶¶236-45. Unsurprisingly then, at depositions, Defendants have offered flatly contradictory testimony about the possibility of certain trades serving a “hedging” purpose,²²⁵ and have also denied any knowledge of such a rationale.²²⁶

Thus, whether it comes to Plaintiffs’ case in chief or Defendants’ defenses, legal and factual issues and evidence common to the class will predominate.

²²⁴ The Banks also offered this “hedging” defense to the CFTC, and the CFTC correctly noted, in every settlement order, that the Banks’ explanation does not hold water. DLB Decl. Ex. 28 at *8 n.9 (“Irrespective of whether the NY Options Desk and NY Swaps Desk traders had an interest in hedging, they engaged in attempted manipulation when they placed bids and offers or executed trades around 11:00 a.m. with the improper intent to move the USD ISDAFIX rate in Barclays’ favor.”); DLB Decl. Ex. 29 at *8 n.7; DLB Decl. Ex. 30 at *8 n.11; DLB Decl. Ex. 31 at *5 n.6.

²²⁵ *Compare, e.g.*, DLB Decl. Ex. 49 at 254-269 (Cao, a Citi exotics trader, explaining a conversation he had with Donlon, a Citi swaps trader (contained in DLB Decl. Ex. 52) as a request to hedge a curve option), *with* DLB Decl. Ex. 47 at 166-193 (contradicting Cao’s explanation of the same document). *See also* DLB Decl. Ex. 23 at 57:9-25 (testifying that a hedging strategy would be agnostic to prices at 11am, so long as the hedging trade is executed); DLB Decl. Ex. 59 at 175:23-176:8 (“Q. I’d like you to explain to me that, why would a trader want to move the 19901 screen in a particular direction up or down if all the trader was doing was putting on a hedge? [] A. I mean, I don’t know. I don’t know if I can answer that.”).

²²⁶ *See, e.g.*, DLB Decl. Ex. 276 at 170:3-171:3 (“Q. Did any of the traders that you talked to at BNP, or the submitters, say that what appeared to be manipulation was actually hedging? [] A. No, sir, not to my recollection. Q. Did anyone at BNP say to you that what appeared to be manipulation was in fact hedging? [] A. No, sir, I don’t recall that. Q. Did any traders mention hedging to you at all as part of this ISDAFIX review process? [] A. No, sir, not to me. I don’t recall that. Q. So you don’t recall any discussion where anyone at BNP offered hedging as an explanation for any potentially manipulative conduct? [] A. That’s correct.”); DLB Decl. Ex. 277 at 109:8-12 (“Q. But you think generally if we asked market participants what does the print mean, they would all say hedging? A. No, I don’t”).

B. Common Issues Will Also Predominate in Proof of Impact and Damages

Plaintiffs will also show that they were impacted by the unlawful conspiracy and prove damages. The impact element poses two questions: The first concerns the “legal question [of] whether any such injury is . . . of the type the antitrust laws were intended to prevent and . . . flows from that which makes defendants’ acts unlawful.” *Cordes*, 502 F.3d at 106. The second raises the “familiar factual question whether the plaintiff has indeed suffered any harm, or ‘injury-in-fact,’” as a result of the antitrust violation. *Id.* at 104-05.

Injury-in-fact and damages are distinct concepts. Injury-in-fact concerns “*whether* the plaintiffs were harmed and damages quantify *by how much*.” *EPDM*, 256 F.R.D. at 88. Proving impact thus requires a showing only that Class members suffered *some* damage from the conspiracy; “inquiry beyond this minimum point goes only to the amount and not the fact of damage.” *Zenith Radio Corp. v. Hazeltine Research Inc.*, 395 U.S. 100, 114 n.9 (1969). As the First Circuit recently observed, “[p]aying an overcharge caused by the alleged anticompetitive conduct *on a single purchase* suffices to show . . . impact or fact of damage.” *In re Nexium Antitrust Litig.*, 777 F.3d 9, 27 (1st Cir. 2015) (emphasis added); *see also Air Cargo*, 2014 WL 7882100, at *45.

A plaintiff seeking class certification need only show that impact to class members is “capable of proof at trial through evidence that is common to the class rather than individual to its members.” *Dial Corp.*, 314 F.R.D. at 114-15. Common questions predominate regarding impact where the answers to both the legal and factual question are capable of proof by common evidence. *EPDM*, 256 F.R.D. at 88.

With regard to damages, a plaintiff must show at the class stage only that it is capable of establishing “a just and reasonable inference of each class member’s approximate damages” by “using predominately common proof, or if it cannot, that the need for individualized proof will

not overwhelm the rest of the case.” *Air Cargo*, 2014 WL 7882100, at *61. Courts do not demand absolute precision or certainty in estimating damages. *See Story Parchment Co. v. Paterson Parchment Paper Co.*, 282 U.S. 555, 563 (1931) (“while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference”).²²⁷

Here, Plaintiffs rely on Prof. Pirrong’s analysis. As detailed in his report and summarized below, Prof. Pirrong utilizes established methods from the market microstructure literature to create a model that can determine, using a formulaic approach common to Class members, which transactions were impacted by Defendants’ conspiracy. That same model can be used to approximate the damages suffered by each Class member on all of its impacted transactions and to quantify classwide damages overall. Prof. Pirrong’s work strongly supports class certification.

1. Prof. Pirrong’s classwide model is capable of determining impact

Prof. Pirrong has applied concepts from market microstructure literature to model what USD ISDAfix would have looked like over the Class Period “but for” Defendants’ conspiracy. In his report, Prof. Pirrong discusses the theoretical underpinnings of this model. *See* Pirrong Report § IV. He demonstrates the application of such techniques first to quantify the measure of artificiality caused by a given manipulative trade, *id.* § IV, and from there to determine whether any particular transaction suffered a negative impact from Defendants’ misconduct, *id.* § V. In basic terms, he does this by comparing the return on the investment in the real world with the return on the investment the instrument would have obtained in the “but for” world.

²²⁷ *See also Currency Conversion*, 264 F.R.D. at 116 (“The antitrust cases are legion which reiterate the proposition that, if the fact of damages is proven, the actual computation of damages may suffer from minor imperfections.”).

As Prof. Pirrong explains, market microstructure scholarship establishes that financial transactions such as those in which Defendants here engaged, have both “temporary” and “permanent” effects on prices (rates) in those markets. *Id.* § IV.A. The “temporary” impact reflects the trading profits earned by the market maker. That is, prices fall (or rise) when a market maker buys (or sells) the instrument, then bounce back when the market maker has reversed the transaction. But, in addition, trades also have a more lasting or “permanent” impact on prices because they convey information about the value of the financial instrument. This is why a bullish piece of information about a stock that arrives today causes the price to rise today, while a bearish piece of information that arrives tomorrow causes the price to fall tomorrow, but from a higher level.

Prof. Pirrong further explains that the empirical literature has developed and refined methods for quantifying the price impact of trades. For his model, he has adopted a method that measures price changes at various time intervals surrounding a trade to quantify any temporary and permanent price impact. This methodology, which has been employed in hundreds of peer reviewed articles studying a variety of financial instruments, allows Prof. Pirrong to quantify the price (rate) impact on USD ISDAfix of any given set of trades.

As Prof. Pirrong explains, since there are multiple manipulative trades, and since each of them has a lasting impact, these impacts, where found, accumulate over time. Thus, to model the but-for world, “it is necessary to add the permanent impact of each episode of manipulative trading to determine the cumulative artificiality” caused by Defendants’ manipulation. *Id.* ¶94. His model does precisely this by tracing the cumulative rates as impacted by manipulative trading over time, resulting in a “ribbon” of artificiality. To demonstrate this effect, Prof. Pirrong uses a sample set of trades: those identified as manipulative by Mr. Farrell. But, notably,

one of the strengths of Prof. Pirrong’s damages model is its flexibility. If Plaintiffs expect the sample of manipulative trades to grow as discovery progresses, Defendants likely expect to be able to disprove that some were manipulative at all. Either way, Prof. Pirrong’s model can incorporate any such changes, and generate a new ribbon. The artificiality ribbon illustrated in Prof. Pirrong’s report reflects the cumulative artificiality over the entire Class Period, created based on the set of manipulative events identified by Mr. Farrell. *See generally* Pirrong Report § V.

Prof. Pirrong can use this robust, classwide model to determine whether any particular instrument was harmed by the conspiracy. Using industry-standard formulae (such as the “Black-76” model), various types of transactions can essentially be “re-valued” at any point in time using the “but for” interest rate calculated by adding the level of artificiality seen on a given day to the real-world market rates for that day. *Id.* § VI. The same process, using the same artificiality ribbon, and the same valuation formulae, would result in classwide figures when simply ‘scaled up’ across Defendants’ transactional databases.

Prof. Pirrong’s classwide model for determining impact satisfies Plaintiffs’ burden at the class certification stage. At this stage, Plaintiffs must show only that impact for Class members can be determined based predominately on a common, formulaic approach.²²⁸ *See Dial Corp.*, 314 F.R.D. at 114-15 (to satisfy the impact element of Rule 23(b)(3)’s predominance requirement, a plaintiff need only show “that class-wide injury or ‘impact’ is capable of proof at trial through evidence that is common to the class rather than individual to its members”); *Houser v. Pritzker*, 28 F. Supp. 3d 222, 244 (S.D.N.Y. 2014) (“[O]n a motion for class

²²⁸ As noted, a class member is “impacted” for the purposes of an antitrust claim when it suffered harm on a single one of its purchases. *See Nexium*, 777 F.3d at 27 (“Paying an overcharge caused by the alleged anticompetitive conduct on a single purchase suffices to show—as a legal and factual matter—impact or fact of damage. . . . Here, if a class member is overcharged, there is an injury, even if that class member suffers no damages.”).

certification, the Court only evaluates whether the method by which plaintiffs propose to prove classwide impact *could* prove such impact, not whether plaintiffs in fact can prove classwide impact.”) (emphasis added).

Indeed, not only has Prof. Pirrong demonstrated that impact is *capable* of being proved on a classwide basis, he has also shown that, under the circumstances of this case, a classwide approach is *superior* to a more individualized approach. Because of the cumulative effect of Defendants’ manipulative trades, it is necessary to consider the entire history of Defendants’ misconduct over the Class Period to determine the “but for” rates on a given day. In other words, even individual plaintiffs would need to engage in classwide analyses. *See Pirrong Report* § V.C.

Defendants are sure to argue that the impact requirement is more complex or onerous. They may argue, for example, that Plaintiffs must definitively prove that some or all Class members actually were impacted at the certification stage. But there is no requirement that Plaintiffs *prove* that Class members were *actually impacted* at the certification stage. *See In re Amaranth Nat. Gas Commodities Litig.*, 269 F.R.D. 366, 379 (S.D.N.Y. 2010) (“plaintiffs are not required to *prove* injury-in-fact at the class certification stage”).²²⁹ Fact discovery is not complete, and Plaintiffs have not yet identified the full set of manipulative trades that will be incorporated into the artificiality ribbon. At this stage, Plaintiffs must demonstrate only that they have a classwide approach that is *capable* of proving impact.

Moreover, it is to be expected that classes will “contain some variation in impact and damages. This, absent more, does not offend Rule 23.” *Air Cargo*, 2014 WL 7882100, at *47

²²⁹ Nor are Plaintiffs obliged to show that a Class member suffered *net* impact across multiple trades. Any netting is solely a question of damages.

(citing, among others, *Kohen v. Pacific Inv. Mgmt. Co. LLC*, 571 F.3d 672, 677 (7th Cir. 2009) (“Such a possibility or indeed inevitability does not preclude class certification[.]”).²³⁰

Here, Defendants’ rampant manipulation caused widespread injury to Class members. Defendants manipulated ISDAfix to make money, not to lose it. Their manipulation usually involved small losses on the manipulative trade itself so they would experience bigger gains overall. They often called the small losses “ammo,” which they would “waste” or “burn” to win bigger victories. Those gains often came at the expense of Class members. As discussed above, the Defendant Banks recognized that even very small changes in USD ISDAfix can make the difference between them making money or losing money on swaptions. Although his model does not yet incorporate the full scope of Defendants’ manipulation, and does not yet account for the fact Class members likely transacted with multiple bank Defendants, Prof. Pirrong confirms that widespread impact on Class members is likely.²³¹

2. Prof. Pirrong’s classwide model is also capable of quantifying damages

Prof. Pirrong’s model is also capable of estimating the damages suffered on each affected instrument, for each Class member, and for the Class overall. The proper measure of damages in a suit alleging a horizontal conspiracy is “the difference between the prices actually paid and the prices that would have been paid absent the conspiracy.” *N.Y. v. Hendrickson Bros., Inc.*, 840 F.2d 1065, 1077 (2d Cir. 1988); *see also N.Y. v. Julius Nasso Concrete Corp.*, 202 F.3d 82, 88

²³⁰ *See also Tyson Foods, Inc. v. Bouaphakeo*, 136 S. Ct. 1036, 1050 (2016) (“the question whether uninjured class members may recover” was not properly evaluated at the class certification stage where plaintiffs contended that a methodology could identify uninjured class members, and that the question was properly “a challenge to the proposed method of allocation when the case returns to the District Court for disbursal of the award”); *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 822-23 (7th Cir. 2012) (rejecting claim that “proposed class cannot be certified because it contains many individuals who were not injured” as it was “at best an argument that some class members’ claims will fail on the merits if and when damages are decided, a fact generally irrelevant to the district court’s decision on class certification”).

²³¹ *See* Pirrong Report § VIII.C (noting that, *e.g.*, 85% of the analyzed Nomura counterparties—who were responsible for 98% percent of the notional volume among the analyzed Nomura counterparties—have already been found to have been negatively impacted).

(2d Cir. 2000). That is precisely what Prof. Pirrong’s model is capable of measuring. As explained above, at the broadest level, Prof. Pirrong’s model compares the return on the instrument in the actual world to the returns that would have been earned on the instrument in the “but for” world, as modeled by an artificiality ribbon grounded in concrete instances of Defendants’ manipulative trades.

Depending on the type of transaction, the economic injury was built into different terms (e.g., purchase price, sale price, exercise price, cash flows) for instruments, but all of the injuries derived from the manipulation of interest rates. Prof. Pirrong uses a formulaic approach to quantifying the damage on each type of instrument by comparing its terms in the actual world to the terms in the but-for world.

At the class certification stage, a plaintiff need only demonstrate it has a “workable” methodology for estimating damages. *See Dial Corp.*, 314 F.R.D. at 115-16. Prof. Pirrong’s model meets that threshold. Antitrust law “refuses to impose extraordinary burdens on a plaintiff to construct the but-for price.” *Elec. Books*, 2014 WL 1282293, at *16. Indeed, “damage issues in [antitrust] cases are rarely susceptible of the kind of concrete, detailed proof of injury which is available in other contexts.” *J. Truett Payne Co., Inc. v. Chrysler Motors Corp.*, 451 U.S. 557, 565 (1981). For this reason, a wrongdoer may not “insist upon specific and certain proof of the injury which it has itself inflicted.” *Id.* at 566-67 (citation omitted).

Defendants may argue that the possibility that not all Class members were harmed to the same degree or that some Class members may ultimately be shown to have *benefitted* from Defendants’ manipulation of ISDAfix makes class certification improper. But such arguments are misguided efforts to prejudge merits issues. *See Dial Corp.*, 314 F.R.D. at 119-20.²³²

²³² *See also Air Cargo*, 2014 WL 7882100, at *32 (“Nothing in our class certification jurisprudence requires that every single class member suffer an impact or damages, regardless of the size of the class. To the contrary,

Defendants are also likely to argue that damages must be netted across each of a Class member's investments—such that if a Class member somehow benefitted from manipulation on one transaction, those financial benefits must be subtracted from financial harms experienced on other transactions. While Plaintiffs do not agree any such netting is required,²³³ Prof. Pirrong's model can handle any such netting if the Court determines that it is legally required—it would simply involve applying the same valuation models to the same artificiality ribbon, but for all of a Class member's relevant transactions rather than the subset that were harmed.

Plaintiffs have shown that damages are capable of being measured in this case through a formulaic approach that will not be overwhelmed by any individual issues that might arise, which carries Plaintiffs' burden at this stage.

C. Common Questions of Law and Fact Predominate Because the Elements of Plaintiffs' Unjust Enrichment and Breach of Contract Claims Can Be Resolved by Classwide Proof

1. Common issues predominate with respect to the Defendant Banks' unjust enrichment

Where a federal court exercises supplemental jurisdiction over state law claims, the forum's choice of law rules apply. *See D'Amato v. Five Star Reporting, Inc.*, 80 F. Supp. 3d 395, 407 (E.D.N.Y. 2015). Under New York law, the first step in a choice of law analysis is to determine whether an actual conflict exists between the laws of the jurisdictions involved.

Forest Park Pictures v. Universal Tel. Network, Inc., 683 F.3d 424, 433 (2d Cir. 2012). Where

courts have routinely recognized what an unrealistic burden this would put on plaintiffs."); *Kohen*, 571 F.3d at 677 (Posner, J.) ("What is true is that a class will often include persons who have not been injured by the defendant's conduct; indeed this is almost inevitable because at the outset of the case many of the members of the class may be unknown, or if they are known still the facts bearing on their claims may be unknown. Such a possibility or indeed inevitability does not preclude class certification[.]"); *Pichardo v. Carmine's Broadway Feast Inc.*, 2016 WL 4379421, at *4 (S.D.N.Y. June 13, 2016), *adopted* 2016 WL 5338551 (Sept. 23, 2016) (same).

²³³ Defendants should not be permitted to "speculatively rais[e] potential offsets" to overcharge damages as a way of complicating the damages calculation. *Elec. Books*, 2014 WL 1282293, at *17. Because of "the nearly insuperable difficulty" of demonstrating how class members would have reacted absent the imposition of the overcharge, the Supreme Court has long barred the inclusion of potential offsets in overcharge damages calculations. *Hanover Shoe, Inc. v. United Shoe Machinery Corp.*, 392 U.S. 481 (1968).

an actual conflict exists, “New York courts seek to apply the law of the jurisdiction with the most significant interest in, or relationship to, the dispute.” *Lazard Freres & Co. v. Protective Life Ins. Co.*, 108 F.3d 1531, 1539 (2d Cir. 1997).²³⁴ Application of New York’s choice of law rules leads to the uniform application of New York law to Plaintiffs’ unjust enrichment claims such that common questions of law predominate.

An unjust enrichment claim is rooted in “the equitable principle that a person shall not be allowed to enrich himself unjustly at the expense of another.” *Miller v. Schloss*, 218 N.Y. 400, 407 (1916). Thus, the elements of an unjust enrichment claim—“that (1) the [defendant] was enriched, (2) at [the plaintiff’s] expense, and (3) that it is against equity and good conscience to permit the [defendant] to retain what is sought to be recovered,” *Georgia Malone & Co. v. Rieder*, 19 N.Y.3d 511, 516 (2012)—center on the defendant’s inequitable conduct, not on the plaintiff’s injury.

Similarly, the remedy for an unjust enrichment claim is in the nature of restitution or disgorgement to prevent the defendant from reaping a windfall, not damages to compensate the plaintiff for her injury. *See* Restatement (Third) of Restitution and Unjust Enrichment §§ 49, 51, 52 (2011). Thus, courts recognize that “a universal thread throughout all common law causes of action for unjust enrichment” is “a focus on the gains of the defendants.” *Keilholtz v. Lennox Hearth Prods. Inc.*, 268 F.R.D. 330, 341 (N.D. Cal. 2010).²³⁵

²³⁴ The same result obtains whether an “interest analysis” or “center of gravity” test is applied. *See Chigirinskiy v. Panchenkova*, 2015 WL 1454646, at *5 (S.D.N.Y. Mar. 31, 2015) (“District courts in this circuit disagree about which choice-of-law test applies to unjust enrichment claims.”)

²³⁵ *See also Schumacher v. Tyson Fresh Meats, Inc.*, 221 F.R.D. 605, 612 (D.S.D. 2004) (“[T]he very nature of such claims requires a focus on the gains of the defendants, not the losses of the plaintiffs. That is a universal thread throughout all common law causes of action for unjust enrichment.”); *In re Terazosin Hydrochloride Antitrust Litig.*, 220 F.R.D. 672, 697 n.40 (S.D. Fla. 2004) (“The standards for evaluating each of the various states classes’ unjust enrichment claims are virtually identical. Courts have recognized that state claims of unjust enrichment are universally recognized causes of action that are materially the same throughout the United States.”).

The law “does not give particular weight to the state in which the act conferring the benefit was done . . . where, as here, the place where the enrichment was received can be identified and bears a strong relationship to the occurrence and the parties.” *In re Rezulin Prod. Liab. Litig.*, 392 F. Supp. 2d 597, 619 (S.D.N.Y. 2005).

New York law applies because the Unjust Enrichment Defendants principally set ISDAfix from New York trading desks and were enriched in New York.²³⁶ Accordingly, the alleged inequitable conduct occurred in or at least had the most significant relationship to New York. Although other jurisdictions may have an interest in preventing inequitable conduct from harming their residents, no state has a stronger interest in this dispute than New York. Indeed, New York is “the only state that has an interest not only in compensating its citizens, but also in regulating a resident corporation.” *In re Mercedes-Benz Tele Aid Contract Litig.*, 257 F.R.D. 46, 59 (D.N.J. 2009). Weighing the interests of various states, New York has a stronger interest in ensuring that its corporate citizens do not engage in inequitable conduct. *Cf. Aaron Ferer & Sons Ltd. v. Chase Manhattan Bank, N.A.*, 731 F.2d 112, 121 (2d Cir. 1984) (applying Rest. 2d Conflicts §221 and finding New York law governed the action for money had and received where contacts were centered in New York).

“To state a claim for unjust enrichment in New York, a plaintiff must allege that (1) defendant was enriched; (2) the enrichment was at plaintiff’s expense; and (3) the

²³⁶ See DLB Decl. Ex. 2 at 23-25 ([REDACTED]); DLB Decl. Ex. 278 at 141, 227, 336 ([REDACTED]); DLB Decl. Ex. 45 at 53:17-12, 117:6-16, 117:23-118:6 ([REDACTED]). See generally *Techno-Comp, Inc. v. Arcabascio*, 130 F. Supp. 3d 734, 741 (E.D.N.Y. 2015) (noting that in deciding which jurisdiction’s law to apply in a tort dispute, courts consider that “the significant contacts are, almost exclusively, the parties’ domiciles and the locus of the tort”); *United Feature Syndicate, Inc. v. Miller Features Syndicate, Inc.*, 216 F. Supp. 2d 198, 215 (S.D.N.Y. 2002) (New York choice of law “interest analysis” gives “controlling effect to the law of the jurisdiction which, because of its relationship or contact with the occurrence or the parties, has the greatest concern with the specific issue raised in the litigation” and noting that if the parties do not share a common domicile, “the law of the place of the tort will usually have a predominant, if not exclusive, concern”); *Curley v. AMR Corp.*, 153 F.3d 5, 12 (2d Cir. 1998).

circumstances were such that equity and good conscience require defendants to make restitution.” *Intellectual Cap. Partner v. Inst’l. Credit Partners LLC*, 2009 WL 1974392, at *8 (S.D.N.Y. July 8, 2009) (Chin, J.).²³⁷ Plaintiffs’ claims thus will be subject to the same types of common proof discussed above in connection with the antitrust claims, namely, proof that the Unjust Enrichment Class members’ transactions enriched Defendants (a showing made using the “artificiality ribbon” and other techniques discussed above) and that allowing Defendants to keep those spoils would be unjust (a common showing made using the evidence that rates were being manipulated). Where, as here, the challenged enrichment was based on uniform conduct, if the Defendant Banks’ “retention of a benefit was unjust with respect to one class member, it was unjust with respect to all class members.” *Menocal v. GEO Grp., Inc.*, 2017 WL 880882, at *8 (D. Colo. Feb. 27, 2017) (certifying unjust enrichment class under Colorado law, under which the elements are identical to those of New York).

Even assuming *arguendo* that different states’ laws would apply to Plaintiffs’ unjust enrichment claims, this would not defeat certification as such differences need not outweigh the similarities, for similar reasons. *See, e.g., Keilholtz*, 268 F.R.D. 330 (certifying nation-wide class of unjust enrichment claimants); *Westways World Travel, Inc. v. AMR Corp.*, 218 F.R.D. 223 (C.D. Cal. 2003) (same). Minor variations in states’ substantive laws of unjust enrichment do not cause individual issues to predominate over the indisputably common ones. Where federal and common law claims arise from the same factual allegations and are subject to common proof, “[e]ven if the law of different states might ultimately govern the common law claims—an issue that need not and is not decided at this juncture—certification of the class for the whole action is

²³⁷ Should the Court disagree that New York would apply its own law, and disagree that the key elements of unjust enrichment are common across jurisdictions, Plaintiffs request leave to seek certification under the laws of the domiciles of proposed Unjust Enrichment Class representatives and those states where the law of unjust enrichment is substantially similar.

appropriate” because “the spectre of having to apply different substantive law does not warrant refusing to certify a class on the common-law claims.” *Walsh v. Chittenden Corp.*, 798 F. Supp. 1043, 1055 (D. Vt. 1992); *Schumacher*, 221 F.R.D. at 612. If variations among states’ unjust enrichment laws “do not significantly alter the central issue or the manner of proof,” they do not predominate. *Keilholtz*, 268 F.R.D. at 341-42. Again, here, the need for *each* plaintiff to reconstruct the *entirety* of the “artificiality ribbon” (due to permanent impact), among other things, confirms that the common issues here will predominate over any differences caused by state laws.

2. Common issues predominate with respect to BNPP and Nomura’s breach of contract

The Contract Class is limited by definition to those instances where the ISDA Master Agreement between a Class member and BNPP or Nomura is governed by New York or English law. This is likely all such relevant contracts, as the industry-standard documentation presents that choice. Here, Plaintiff Portigon AG’s ISDA Master Agreement with BNPP chose English law and with Nomura chose New York law.²³⁸

The Contract Class can be certified as including contracts governed by both laws as against both BNPP and Nomura, because no conflict exists between the two with respect to whether the Banks breached their ISDA Master Agreements by failing to calculate payments due under their ISDAfix Transactions in compliance with all applicable laws as well as in good faith and in a commercially reasonable manner. *See Sharma v. Skaarup Ship Mgmt. Corp.*, 916 F.2d 820, 825 n.3 (2d Cir. 1990) (applying New York law to interpret a contract governed by English

²³⁸ DLB Decl. Ex. 279 at 14, 24 (BNPP); DLB Decl. Ex. 281 at 30 (Nomura).

law and noting that “New York and British law are the same” with respect to the question of contract interpretation).²³⁹

“The essential elements of a cause of action for breach of contract are the existence of a contract, the plaintiff’s performance under the contract, the defendant’s breach of that contract, and resulting damages.” *Claridge v. N. Am. Power & Gas, LLC*, 2016 WL 7009062, at *6 (S.D.N.Y. Nov. 30, 2016). The Second Circuit has recognized that where the relevant terms are uniform, claims based on breach of contract are appropriate for class certification. *See U.S. Foodservice*, 729 F.3d at 118 (affirming certification of RICO and breach of contract claims); *Dupler v. Costco Wholesale Corp.*, 249 F.R.D. 29, 37 (E.D.N.Y. 2008) (certifying contract claim and noting that an “overwhelming number of courts have held that claims arising out of form contracts are particularly appropriate for class action treatment”).

As described above, the terms and obligations in Class members’ breach of contract claims are uniform, as they are set forth in standardized ISDA Master Agreements and related ISDA Definitions. The elements in question—breach and damages—are both subject to classwide proof. As to the existence of and duties imposed by the relevant provisions, the same proof (principally, the uniform contractual provisions) will demonstrate BNPP’s and Nomura’s obligations to calculate payments due under ISDAfix Transactions in a commercially reasonable manner and in good faith and to comply with all applicable laws. Because the key issues related to Class members’ breach of contract claims—the counterparty Bank’s obligations thereunder—are uniform under standardized contracts, predominance is satisfied. *See In re Cablevision*

²³⁹ *See also Nat’l Oil Well Maint. Co. v. Fortune Oil & Gas, Inc.*, 2005 WL 1123735, at *2 (S.D.N.Y. May 11, 2005) (“[T]here is no actual conflict between the law of England and the law of New York. Accordingly, a choice of law analysis is unnecessary, and New York law shall govern the breach of contract counterclaim.”); *cf. Dover v. British Airways, PLC (UK)*, 2013 WL 5970688, at *4 n.8 (E.D.N.Y. Nov. 8, 2013) (“Nor is it apparent that there is any conflict between English contract law and the various state contract laws—which is the threshold question for conflict of laws analysis in New York.”).

Consumer Litig., 2014 WL 1330546, at *10 (E.D.N.Y. Mar. 31, 2014) (holding that predominance was satisfied and certifying breach of contract class where the contractual terms at issue were standard across class members).²⁴⁰

Common evidence will also serve as proof of breach—the Bank’s participation in and knowledge of the manipulation of ISDAfix, in derogation of its contractual obligations and in violation of applicable laws. Class members’ damages will also be subject to a common methodological determination, as outlined in the damages analysis discussed by Prof. Pirrong.

D. A Class Action is the Superior Method for Adjudicating This Matter

The facts of this case make it clear that “a class action is superior to other available methods for the fair and efficient adjudication of the controversy.” Fed. R. Civ. P. 23(b)(3).²⁴¹ *First*, Class members have no interest in proceeding individually rather than collectively. Any interest in proceeding individually is likely economically irrational, given that litigation costs would likely quickly exceed any potential recovery, even for large class members. This litigation requires a multi-million dollar commitment of attorney time and resources, along with considerable investments for experts, court reporters, travel, and data and document review, among other tasks. Thus, a class action is the only realistic means to pursue relief for harmed investors. Where, as here, “proceeding individually would be prohibitive for Class members

²⁴⁰ Variations in the circumstances surrounding individual Plaintiff’s entry into the transactions at issue or any subjective understandings of them do not give rise to the predominance of individual issues where provisions are common and substantially uniform. *See Claridge*, 2016 WL 7009062, at *7 (“Plaintiffs’ claims for breach of contract . . . are directed to the text of a uniform Sales Agreement that was distributed to all members of the proposed class. Common issues susceptible to generalized proof substantially predominate over individualized issues, if any.”); *Herman v. Seaworld Parks & Entm’t, Inc.*, 2017 WL 1304302, at *17 (M.D. Fla. Mar. 10, 2017) (rejecting predominance challenge to certification of contract claim because unambiguous contract phrase made individualized inquiries into the circumstances of each class member’s purchase unnecessary).

²⁴¹ Pertinent factors are: “(A) the class members’ interests in individually controlling the prosecution or defense of separate actions; (B) the extent and nature of any litigation concerning the controversy already begun by or against class members; (C) the desirability or undesirability of concentrating the litigation of the claims in the particular forum; and (D) the likely difficulties in managing a class action.” *Id.* Each factor favors certification.

with small claims . . . the class action device is frequently superior to individual actions.” *See In re Scotts EZ Seed Litig.*, 304 F.R.D. 397, 415 (S.D.N.Y. 2015).

Second, there is no litigation concerning the controversy proceeding in competition with this case. This class action has already recovered more than \$400 million in settlements that can be distributed to Class members. If no class was certified and Class members were forced to pursue a host of individual actions, those settlements would be at risk and Class members might recover nothing. *Third*, the desirability of concentrating litigation of Plaintiffs’ claims in this forum has largely been determined. *See* Dkt. No. 98 (order consolidating individual actions because they “appear to present substantially identical questions of fact and law”). *Finally*, there are no “likely difficulties” in managing the proposed class action.²⁴² And any speculative difficulties pale in comparison to the difficulties presented by requiring each claim to proceed individually. *See, e.g., In re Dynamic Random Access Memory (DRAM) Antitrust Litig.*, 2006 WL 1530166, at *11 (N.D. Cal. June 5, 2006) (noting difficulties likely to result from *not* certifying the class, “given the incredible expenditure of time and resources that would result—from both the court’s and the parties’ perspectives—in requiring each class member’s action to proceed independently”).²⁴³

CONCLUSION

For the foregoing reasons, Plaintiffs respectfully request that the Court certify the proposed classes, appoint the named plaintiffs as class representatives, and appoint Interim Co-Lead Class Counsel as Class Counsel.

²⁴² Declining to certify for reasons of manageability is disfavored. *See In re Visa Check/Mastermoney Antitrust Litig.*, 280 F.3d 124, 140 (2d Cir. 2001) (“failure to certify an action under Rule 23(b)(3) on the sole ground that it would be unmanageable is disfavored and should be the exception rather than the rule”).

²⁴³ Should the Court deem certification appropriate only as to antitrust liability, Plaintiffs request certification of the Antitrust Class accordingly pursuant to Rule 23(c)(4), which provides for certification as to particular issues shown common to the class, leaving other issues to be litigated in subsequent proceedings. *See Nassau Cty.*, 461 F.3d at 226-27.

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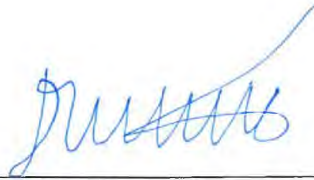
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